ROLE OF STRESS, OPTIMISM, AND SOCIAL SUPPORT IN SUICIDAL IDEATION AMONG ADOLESCENTS

THESIS

SUBMITTED FOR THE AWARD OF THE DEGREE OF

Doctor of Philosophy

IN

PSYCHOLOGY

BY

HAMEEDA SHAHEEN

UNDER THE SUPERVISION OF
Dr. (Mrs.) MUSADDIQ JAHAN
ASSOCIATE PROFESSOR

DEPARTMENT OF PSYCHOLOGY
ALIGARH MUSLIM UNIVERSITY
ALIGARH (INDIA)

2012

Dedicated
To
My Parents
And
Siblings

Dr. (Mrs.) Musaddiq Jahan
ASSOCIATE PROFESSOR IN PSYCHOLOGY

WOMEN'S COLLEGE
ALIGARH MUSLIM UNIVERSITY
ALIGARH, INDIA

Phone: 0571-2721789 (Res.)
0571-2403541 (Off.)

Dated.....

Certificate

This is to certify that the thesis entitled **"ROLE OF STRESS, OPTIMISM, AND SOCIAL SUPPORT IN SUICIDAL IDEATION AMONG ADOLESCENTS"** *submitted for the award of the degree of* **Doctor of Philosophy in Psychology** *of Aligarh Muslim University, Aligarh, embodies the original research work carried out by* **Ms. HAMEEDA SHAHEEN** *under my guidance and supervision and has not been submitted earlier for the award of any other degree or diploma of this or any other university.*

8/6/12

SUPERVISOR

Acknowledgement

*All the praise to Almighty **'Allah'** who bestowed my life with indefinable blessings and mercy, and showered His choicest blessings upon me in achieving this milestone. In utter gratitude, I bow my head before Him with all humility and reverence.*

*My vocabulary fails to express my indebtedness that I owe to my ideal teacher, motivator, source of inspiration and enlightenment, and erudite supervisor **Dr. (Mrs.) Musaddiq Jahan,** Associate Professor, Women's college, Aligarh Muslim University, Aligarh, for her support, extraordinary co-operation, encouragement and painstaking supervision throughout the course of my research. I will cherish throughout my life the constructive criticism, creative ideas, valuable suggestions, and unending support that I received from her.*

*My eternal thanks are to **Prof. Abu Sufiyan Zilli,** Chairman, Department of Psychology, who provided all the necessary facilities for undertaking this research work. Specially, I express my sincere gratitude to **Prof. (Mrs.) Hamida Ahmad** and **Prof. Mahmood S. Khan** for their immense help and valuable suggestions to me.*

*I express my sincere thanks to late **Dr. Rahat Ali Khan,** Associate Professor, Department of Psychology, Aligarh Muslim University, Aligarh, for his morale boosting encouragement, sagacious advice, and above all his paternal affection throughout my research work. May his soul rest in peace.*

*I also do not find words to express my indebtedness to **Prof. Shamim A. Ansari** and **Prof. Akbar Hussain,** who always helped me by their invaluable suggestions and illuminative ideas.*

*Equally, I express my sincere gratitude to my esteemed teachers **Prof. (Mrs.) Naheed Nizami** and **Dr. Hafiz Illyas Khan** and other teachers of the*

Department of Psychology, A.M.U., Aligarh, who always encouraged me during the progress of my research.

I am also thankful to Dr. Roomana Siddiqi, Associate Professor in psychology and other teachers of the Women's College A.M.U., for help and valuable suggestions.

I am also deeply indebted to the principal Senior Secondary School Girls, OSD Senior Secondary School Boys, principal A.M.U. Girls High School, principal of S.T. High School, teaching staff of all the schools specially Dr. Arif Ali Khan, of Senior Secondary School Boys, A.M.U Aligarh, for their cooperation and support during my data collection.

I would like to express my thanks to all my friends for their cooperation and consistent inspiration.

I am also thankful to Mr. Shariq, Mr. Aqueel, Mr. Tajuddin, Mr. Majaz, and other non-teaching staff of the department of psychology for their cooperation during the period of my research work.

I extend my sincere gratitude to University Grants Commission (UGC), New Delhi, for the Contingence Grand-in-Aid for pursuing Ph.D.

Last, and I saved the best for last, a very special thanks and deepest appreciation goes to my family: my loving parents and siblings. I lack words in expressing my deepest thanks and profound sense of greatfulness to my affectionate, dignified and creditable parents Dr. Md. Shamim Alam and Mrs. Najma Shamim whose endless blessings and consistent inspiration enabled me to accomplish this endeavor. I also extend my heartful thanks to my elder brother Md. Noor Alam and sister Dr. Fareeda Shaheen, and younger brother Md. Rooh Alam and sisters Sayeeda Shaheen, Sanjeeda Shaheen, and Saheefa Shaheen for extending their unlimited love, affection, encouragement, moral boosting, and unceasing support in various ways.

Hameeda Shaheen

CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

Chapter-I

Introduction

Introduction

Adolescence, as a transitional period between childhood and adulthood, is often termed as a stage of turmoil and confusion. Young people at this stage experience enormous changes, both physically and psychologically, which usually create much pressure and stress. Young people have simultaneous and competing needs inherent to this stage of life. The marked hormonal and morphological changes always result in an increasing concern with sexuality. The peer group as an agent of socialization becomes especially critical. This stage also involves a gradual distancing from parents and, since gradual distancing is often difficult, this process is often marked by periods of great rebelliousness (Lester, 1991).

Erikson (1959) termed the crisis during this stage as identity versus confusion. The adolescent's chief concern is to establish an identity. The identity may be shaped by peers or by fashionable heroes and ideals. As Berman and Jobes (1991) noted, adolescent is developmentally caught between two worlds: needs for autonomy and dependence. Critically, adolescents' attempts to struggle through the various developmental phases inherent in identity formation may lead to depressive symptomatology or suicidal behaviors.

Suicidal behavior is an important public health problem worldwide and official statistics in United States suggest that suicide is the third leading cause of death in the 15 to 19 age group (Reynolds, 1988). Rudd (1989) stated that 'the suicide rate among young people in 15-24 years age group has almost tripled during the past 20 years in the USA'. In Asian societies like Hong Kong, Taiwan, and Singapore, suicide is rare in children under the age of 10, but like their western counterparts, the prevalence begins to increase

for youth between 10 to 14 years of age, and in the 15 to 24 age group, there is a dramatic increase in absolute numbers (Chia, 1999; Ung, 2003).

Prevalence of Adolescent Suicidal Behavior in India

According to Jacob (2008), the suicide rates in India are higher than in the western world, and there is continuously an increasing trend. Lester, Agarwal, and Natarajan (1999) explored the epidemiology of suicide in India for the period 1975-94, the suicide rate in India in 1991 was 9.2 per 100,000 per year with a male rate of 10.6 and a female rate of 7.9. The rate in 1999 was 11.2 per 100,000 (NCRB[1], 1999). The rate in 2005 was 10.3 per lakh (NCRB, 2005). More than one lakh persons lost their lives by committing suicide in year 2006 (NCRB, 2006). According to the National Crime Records Bureau in 2010, 'around 35.4% suicide victims were youths in the age group of 15-29 years. Among the specified causes, 'Illness', 'Family Problems', and 'Failure in Examination' were the main cause of suicides among children. Family problems drove 11,314 youths between the ages of 15 to 29 year to commit suicide.' Rate of suicide among the children up to 14 years and 15-29 years between 1999 to 2010 is depicted in Table 1. The table shows a sharp increase in suicide rate among the age group of 15-29 years in the year 2010.

[1]National Crime Record Bearue, Ministry of Home Affairs, Government of India.

Table 1.1

Suicide rates in India during 1999- 2010

Sl. No.	Year	Upto 14 Years			15-29 Years		
		Male	Female	Total	Male	Female	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	1999	1754	1821	3575	20533	20177	40710
2	2000	1697	1627	3324	19734	18977	38711
3	2001	1498	1509	3007	19981	18929	38910
4	2002	1306	1574	2880	20917	18371	39288
5	2003	1278	1298	2576	21697	18131	39828
6	2004	1467	1446	2913	21617	18519	40136
7	2005	1328	1227	2555	21823	18411	40234
8	2006	1194	1270	2464	22757	19459	42216
9	2007	1184	1295	2479	23446	19714	43160
10	2008	1165	1216	2381	24396	20256	44652
11	2009	1501	1450	2951	23746	20174	43920
12	2010	1640	1490	3130	26387	21238	47625

*{*Source: *Accidental Deaths and Suicide in India,1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, & 2010; published by National Crime Record Bearue (NCRB), Ministry of Home Affairs, Govt. of India}*

A perusal of the statistics of suicides points towards the grimness of the problem in India. Young people, as the pillar of our society, deserve our concern and care. Viewing the phenomenon, the researcher found that a more comprehensive study on adolescent suicidal ideation would provide valuable information on the understanding of the phenomenon and hence developing appropriate preventive measures for dealing with the problem.

Extensive foreign studies demonstrate that a number of risk factors are associated with suicidal behavior. These studies have established the relationship between severity of stressful life events, increased depression and suicidality, both in adult samples (Luscomb, Clum, & Patsiokas, 1980; Paykel, Prusoff, & Myers, 1975) and adolescent samples (Bonner & Rich, 1987; Schotte & Clum, 1982, 1987). However, it is found that not all individuals who experience the same level of life stress are suicidal. Moreover, it is suggested that some protective variables and mechanism can protect persons from suicidality even when they are under the influence of stressful events and depression (Rubenstein, Heeren, Housman, Rubin, & Stechler, 1989).

The present study aims to examine the role of stress, optimism, perceived social support and their interactions in relation to suicidal ideation among adolescents. Research evidences indicate that dispositional optimism and perceived social support (from family, peers, & significant others) are two important sources of strength for adolescents exposed to severe stress.

The phenomenon of suicidal ideation consists of several elements. One of these elements is suicidal behavior, which has different levels: ideation, contemplation, planning and preparation, attempt, and consummation (Rich, Kirkpatrick-Smith, Bonner,

& Jans, 1992). Suicidal behavior consists of all the actions executed for achieving suicide, and it begins with the ideation, which can be seen as any kind of thought focused on this goal. Community surveys of suicidal ideation have shown that up to 24% of adolescents between the ages of 15 and 19 years, and 55% of the college student population have experienced suicidal ideation at some point in their lives (van Heeringen, 2001). While suicide completers are fundamentally different from ideators, ideator oriented research is nevertheless valuable. As many suicide completers have made previous attempts or have thought about suicide, the study of ideators can provide important data about those variables that may contribute to eventual suicides (Berman & Jobes, 1991). Therefore, suicidal ideation, instead of the act of committing or attempting suicide per se, is selected as the focus of the present study. Moreover, adolescents from the normative population are selected to participate in the present study, since they can provide information regarding what is occurring in wider populations and they address the question of how many youths experience suicidal thoughts but do not seek professional help (Garrison, 1989). Before describing on the factors that have their impact on adolescents' suicidal ideation we have to examine the meaning and definition of suicidal ideation, the theoretical viewpoints regarding its origin and the important empirical studies that have bearing on it.

Suicidal Ideation

Suicidal ideation is a precursor for attempted suicide and logically it precedes suicical acts (Beck, Kovacs, & Weissman, 1979). Increasing prevalence of suicidal ideation among adolescent has become a major worry for parents, teachers, mental health practitioners and others involved with this age group. Though suicidal ideation is

prevalent in a variety of population, it is an important health issue among adolescents and young adults (Shaffer et al., 1996).

Suicide is seen as a process, which includes covert suicidal thought, intent or plan to overt attempt, whether successful or not, to end one's life. Suicide has been defined by Comer (2002) as "Self-inflicted death in which one makes an intentional, direct and conscious effort to end one's own life." According to Barraclough and Hughes (1987) – "Suicide is voluntarily doing an act for the purpose of destroying one's own life while one is conscious of what one is doing, and in order to arrive at a verdict of suicide there must be evidence that the deceased intended the consequences of his act."

Meaning of Suicidal Ideation

Both completed suicide as well as suicidal behavior/ or attempted suicide are often preceded by suicidal ideation. According to Bush and Pargament (1995) suicidal behavior is often preceded by thoughts, threats, and unsuccessful attempts at suicide. Similarly, Cole, Protinsky, and Cross (1992) noted that suicide was the completed process of a continuum that began with suicidal ideation, followed by an attempt of suicide, and finally completed suicide. So, suicidal ideation is a preoccupation with instructive thoughts of ending one's own life (Cole et al., 1992; Harter, Marold, & Whitesell, 1992) while suicide is a completed act of taking ones life (National Mental Health Association, 2002, as cited in Wilburn & Smith, 2005). Strictly speaking, suicidal ideation means wanting to take one's own life or thinking about suicide without actually making plans to commit suicide. However, the term is often used more generally to refer to having the intent to commit suicide including planning how it will be done. Beck et al. (1972) defined suicide ideators as individuals who presently have plans and wishes to

commit suicide, but who have not engaged in suicide attempts. According to O'Carroll et al. (1996), suicide ideation is defined as self reported wishes, thoughts, or desire to take one's own life. According to Hirsch (2003), suicidal ideation is defined as self-reported thoughts of self-injurious behavior or thoughts of wanting to take one's own life.

Suicidal ideation can be nonspecific or specific, which refers to the presence or absence of intent to die and a plan of action (McIntosh, 1996). It is set apart from other components of suicide by the absence of overt suicidal action, verbal or nonverbal, that communicates intent to commit a self injurious act or involve actual self-harm. The dimensional nature of suicidal behavior is also reflected in a review of the literature on suicidal ideation by Goldney, Winefield, Tiggerman, Winefield, and Smith (1989) who commented on the range of definitions on suicidal ideation in the literature. Goldney et al. (1989) point out that "suicidal ideation can vary from fleeting thoughts that life is not worth living to an intense delusional preoccupation with self destruction. It is thus not unexpected that there is a diversity of results in studies of the prevalence of suicide ideation in the community."

Suicidal intention can be distinguished from suicidal ideation (Beck & Steer, 1991). Suicidal intention is present when there is evidence of advanced detailed planning, taking precaution against discovery and using a lethal method. The client does not seek help from others to be rescued from self-harm and a final act is carried out, for example, writing a will or suicide note. Usually those with suicidal intention communicate this intent to the family doctor, a health care professional or significant other prior to acting. While suicidal ideation clients report thinking about self-harm and possibly engage in non-lethal methods of self-harm. But these clients have no definite clear cut plans about

killing themselves. Suicidal intention and ideation probably reflect two ends of a continuum, which states that approximate suicidal intention reflecting a higher level of risk and those approximating suicidal ideation reflecting a lower level of risk. The absence of suicidal intentions may, therefore, be considered as a protective factor.

Suicidal ideation or thoughts about committing suicide can be put on the one end of continuum of suicidal behavior and actual suicidal act at another end. In order to establish a clear nomenclature that could be useful and valid, a committee on nomenclature of a National Institute of Mental Health task force proposed a tripartite classification of suicidal individuals (as cited in Beck, Steer, Kovacs, & Garrison, 1985). These were: suicide ideators (those who were currently thinking about suicide); attempters (those who had made a nonfatal attempt); and completers (those who succeeded in eventual suicide). Although one advantage of this classification serves to clarify confusion in using "suicide" as an umbrella term, it is generally held that suicidal behavior falls within a continuum.

Durkheim was an influential twentieth century sociologist who wrote about suicide (Durkheim 1897, cited in Barraclough & Hughes, 1987). He asserted that the suicide rate of any society is not merely the sum of the individual acts of suicide occurring in isolation but reflect the character of that society as a whole. According to Rahman (1988), Emile Durkheim assumed that the most common definition of suicide is that of death caused by an action initiated by the actor with the intention of causing his own death.

Suicide is often intended to frighten and to cause the restraining person into a changed attitude or behavior towards the victim. It is also intended as a warning to

parents or loved ones as an expression of dissatisfaction or displeasure with existing unpleasant situations and as a plan for improved relationships. It is a depressive emotional illness which produces feeling of helplessness and worthlessness as well as less interest in food, work, friends and everything that makes life worth living. It is a type of mental illness (Hurlock, 1968). So, suicide means not only the act of taking one's own life but also one who dies from his own hand and one who attempts or has a tendency to commit suicide. It refers to the behavior of individuals or groups which may bring about their own destruction. According to Freud (1920/1961) in every individual there is a desire to survive and there is also the desire to die. So the desire to commit suicide is there in the subconscious mind of every human being.

Theoretical Perspectives

There are multiple theoretical perspectives and research traditions to explain suicidal behavior (Bongar, 2002; Hawton & van Heeringen, 2000; Jacobs, 1999).

1. Situational research has aimed to identify the behavioral correlates that distinguish suicidal intent from ideation, such as taking precautions against discovery or method lethality (e.g. Beck & Steer, 1991), to identify and classify the life events or seasonal changes associated with suicide attempt (e.g. Chew & McLeary, 1995; Paykel et al., 1975), and to classify the reason for self-harm into a limited set of categories such as escape for revenge (Bancroft et. al., 1979).
2. Sociological explanations for suicide have focused on the role of broad societal factors in the economic, religious and familial domains in engendering a sense of alienation in certain demographically defined groups predisposed to suicide (Stack, 2000). Durkheim was a founder of the sociological study of suicide. He

emphasized the role of social disintegration, social isolation and status loss in suicide.

3. Psychological theories and related research programmes have shown how certain personality traits and dispositions such as hopelessness, lack of positive future thinking, autobiographical memory deficits, impulsivity, rigidity and problem solving skill deficit contribute to self-destructive behavior (McLeod, 2004; Weishaar, 2000; Williams & Pollock, 2000). Freud (1915/1957, 1920/1961), an exponent of psychoanalytic theory of suicide proposed two major hypotheses to account for suicide – one is an expression of his theory of depression and the other theory postulates that death instinct can turn inward and make the person take his life. When a person looses someone whom he was loved and hated and if these murderous feeling are strong enough, the person will commit suicide.
4. Psychiatric perspectives on suicide have attempted to establish coherent links between specific syndromes such as depression, substance abuse, schizophrenia and personality disorders on one hand and suicide on the other (De Hert & Peuskens, 2000; Linehan, Rizvi, Welch, & Page, 2000; Lonnqvist, 2000; Murphy, 2000).
5. Biomedical explanations on suicide has established the role of genetic factors in predisposing people to self-harm and pinpointed inefficiencies in specific neurotransmitter systems, notably those involving serotonin in case of suicide (Amsel & Mann, 2000; Roy, Nielsen, Rylander, & Sarchiapone, 2000; Traskman-Bendz & Mann, 2000).

The integrative approach that draws together insights from these many traditions, is the most promising approach for the understanding of suicidal behavior (van Heeringen, Hawton, & Williams, 2000).

Suicidal Ideation Models

The work of epidemiological researchers on suicidal ideation has revealed many of the cognitive and behavioral characteristics of people who attempt suicide. Waring (1995) in his dissertation entitled, 'Problem solving appraisal, hopelessness and coping resources: A test of a suicide ideation model' has reviewed and tested the models presented by Simons and Murphy (1985), Ranieri et al. (1987), Rich and Bonner (1987), Clum, Patsiokas, and Luscomb (1979), and Schotte and Clum (1982). Some of the models which have accounted for reasonable, high amount of the variance in suicide or suicidal ideation are presented as follows:

1. Simons and Murphy (1985) have proposed a model of adolescent suicide ideation incorporating psychological-behavioral variables and a set of socio-environmental variables. The psychological-behavioral variables were emotional problems, hope concerning the future, self- esteem, and delinquent behavior. The socio-environmental variables were absence of parental support, employment problems and interpersonal difficulties at school. Summarizing, the study revealed that the best predictor of ideation for males was employment problems and for females, involvement of delinquent behavior and emotional problems.

2. Another model was proposed by Ranieri et al. (1987) which explained suicidal ideation as a result of dysfunctional attitudes. The purpose of their study was to investigate the relationships among depression, dysfunctional attitudes and

suicide ideation in psychiatric patients. In general the results reaffirmed the importance of depression in addition to hopelessness as a syndrome associated with suicide ideation and importantly indicated that dysfunctional attitudes such as perfectionism may yield additional information about suicidal risk. The major finding of the this study was that hopelessness and depression remain useful constructs for estimating suicide ideation and that hopelessness should not be automatically presumed to be the best predictor of suicidal risk in all clinical populations. The study also showed that other dysfunctional attitudes are uniquely associated with the presence of suicide ideation and should be researched further.

3. Rich and Bonner (1987) proposed a stress vulnerability model of suicidal ideation and behavior. Their model asserts that: "social-emotional alienation, cognitive distortions and deficient adaptive resources serve as a predispositional base in suicidal behavior. These factors are hypothesized to create a "coping vulnerability" in an individual that renders him or her vulnerable to suicide ideation in stressful situations. With repeated exposure to and failure to cope with stress over time, individuals are hypothesized to develop a sense of increasing hopelessness which then lead to more lethal, overt forms of suicidal behavior."(pp. 265-266)

4. Clum et al. (1979) suggested that life stress interacts with cognitive rigidity and/or difficulties in problem solving to increase the risk of committing or attempting suicide. Their model postulates that suicidal individuals are deficient in their ability to use divergent thinking to solve life's problems.

5. Schotte and Clum (1982) investigated this model further with college student suicide attempters. They proposed stress/problem solving model to explain suicidal ideation. Their model suggests that individuals who are poor problem solvers are unable to engage in effective problem solving when they are faced with negative life stress and as a direct result of their inability to solve the problems they become hopeless. This feeling of hopelessness is said to place the individual at a higher risk for suicidal behavior.

Some of the other models which can help in enhancing the understanding of suicidal ideation phenomenon are as follows:

6. Shneidman (1989), a prominent figure in suicidology, has proposed a cubic model of suicide in which press, pain and perturbation are viewed as the components of the cube. In this model press refers to event that affect the individual and to which he reacts. It can be positive or negative, actual or imagined. Pain refers to psychological pain tied to thwarted psychological needs. Lastly, perturbation means the state of being perturbed, upset, disturbed or stirred up. Shneidman asserts that suicide is a synthesis of these three elements. He recommends the future research should focus on the interpersonal aspects and on situational stressors of the suicidal individual.

7. Other theorists have proposed to work from a contextual or system approach to the problem. For example Mack (1989) proposed an architectural model to the study of adolescent suicide. His model is comprised of 8 elements covering the adolescent's biological, developmental, personality and social factors, and clinical evaluation of the adolescent's functioning.

Shneidman (1996) stated "The common purpose of suicide is to seek a solution. Suicide is not a random act. It is never done without purpose. It is a way out of a problem, a dilemma, a bind, a difficulty, a crisis, an unbearable situation" (p. 130). Efforts have been made by researchers to explore the causes / concomitants / correlates of suicidal behavior including suicidal ideation.

Existing models of student suicidality have examined the roles of attributional style (Priester & Clum, 1992), cognitive rigidity (Schotte & Clum, 1982), ineffective problem solving skills (Nezu, 1985, 1986; Priester & Clum, 1993; Schotte & Clum, 1987), ineffective coping skills (Heisel & Fusé, 1999; Schotte & Clum, 1982), and feelings of depression and hopelessness (Bonner & Rich, 1987; Cole, 1988; Heisel & Fusé, 1999; Johns & Holden, 1997; Rich & Bonner, 1987; Rudd, 1990) in contributing to student suicidality.

Rich and Bonner (1987) found that 30% of the variance of suicide ideation in a college population was accounted for by the combination of loneliness, depression, few reasons for living, and the experience of negative life stress and they also cited cognitive rigidity, irrational and distorted beliefs, dichotomous thinking, stress, and hopelessness as factors promotive of student suicide ideation. Much evidence exists implicating depression and hopelessness as key factors in the prediction of suicidal thoughts, intent, actions, and eventual suicide among adolescents, general adults, elderly and psychiatric populations (e.g. Brown, Beck, Steer, & Grisham, 2000; Clark & Fawcett, 1992; Dori & Overholser, 1999; Petrie, Chamberlain, & Clarke, 1988; Reifman & Windle, 1995; Rifai, George, Stack, Mann, & Reynolds, 1994).

According to Freud (1920/1961), Eros is the life force, driving us toward survival and Thonatos – the death instinct – propels us towards a state to of non-existence. There is a constant interplay between these forces during an individual's life. Essentially, Freud saw suicide as the outcome of this intrapsychic struggle.

According to Davis (1983), there are many very different motivations for individuals to commit suicide. One reason someone may commit suicide is to escape an unbearable situation. A second is to try to manipulate or change someone else's behavior. A third is to use suicide as a vehicle to communicate to significant others just how unhappy they are and they need help. According to Davis, these people often have no intention of dying.

Davis (1983) states that there are many factors that may lead to suicide. One is an inherited familial susceptibility to suicidal tendencies. Poor mental health or having a mental disorder like depression or schizophrenia are other factors. Death or loss of a loved one, drug abuse, and poor grades could be precursors to suicide. For example, one study found that suicidal behaviors were higher among students who were potential dropouts, placing these students in the at risk category (Eggert, Thompson, Herting, & Nicholas, 1995).

Social isolation was mentioned by Davis (1983) as another factor in adolescent suicide. Having poor social skills and being unable to establish relationship can lead to social withdrawal and ultimately suicide.

Risk and Protective Factors of Suicide

The literature strongly suggests that suicide is rarely the response to a single stress. Instead it is the outcome of a culmination of stressors and adverse life course sequences in a person with few protective factors to draw upon and whose resilience may be compromised. The risk factors and the possible cause(s) of suicide or suicidal behavior are usually interwoven and complex. Regardless, there is a wealth of knowledge and research that attempt to explore the factors that appear to be related to suicide.

Risk Factors

Risk factors are those conditions that influence an individual to engage in self-harmful behaviors. Aside from psychiatric and substance use disorders a number of other factors have been found to be associated with risk of suicidal and nonsuicidal self-harm behaviors. A history of self-harm, specific demographic profiles, negative family of origin experiences and a family history of psychiatric or criminal behavior are all predisposing risk factors for suicide. These risk factors may operate by contributing to the development of problematic personality trait profiles involving such traits as hopelessness or impulsivity, or psychological disorders such as depression. Biological factors such as severe or chronic illness and serotonin depletion, current family factors such as marital discord, and current social factors such as social isolation may all further erode the coping resources of people with vulnerable personality trait profile and psychological disorders and so place them at greater risk of suicide.

Conner, Duberstein, Conwell, Seidlitz, and Caine (2001) have reviewed the literature pertaining to psychological correlates of suicide, and have identified five factors: (1) impulsivity/aggression, (2) depression, (3) hopelessness, (4) anxiety, and (5)

self-consciousness/social disengagement. Depression and other psychiatric disorders are known to be associated with suicidal ideation and suicide attempts (Foster, Gillespie, McClelland, & Patterson, 1999; Hawton, 1987; Hawton, Kingsbury, Steinhardt, James, & Fagg, 1999; Inskip, Harris, & Barraclough 1998). In addition, stressful life events are also known to precede suicidal attempts and actual suicide (Paykel et al., 1975).

Henry, Stephenson, Hanson, and Hargett (1993) indicated that there were several psychological risk factors in adolescent suicide, like hopelessness depressive symptoms and feeling of worthlessness, as well as risk factors related to the adolescents' family and extra-familial subsystems, like parental death, poor family communication, poor academic achievement and break-up with a boyfriend or girlfriend. Family and interpersonal stressors, negative life events, hopelessness and depression are significantly associated with suicide in college students (Konick & Gutierrez, 2005). Elements of the college "experience" itself also have the potential to become risk factors, including demands, loneliness, and separation from support network, and financial pressures (Hirsch & Ellis, 1996; Richardson, Bergen, Martin, Roeger, & Allison, 2005).

Depression is a long established risk factor for suicide (Brent et al., 1988; Driessen, et al., 1998; Friedman, Aronoff, Clarkin, Corn, & Hurt, 1983; Kessler, Borges, & Walters, 1999; McGlashan, 1986; Preuss, Schuckit, Smith, Danko, & Buckman, 2002; Yen, Shea, Pagno, Sanislow, & Grilo, 2003).

In a study conducted by Rubenstein et al. (1989) on 300 high school student in grades nine through twelve to detect risk and protective factors in suicidal and non-suicidal high school students, depression and life stress were found to be risk factors for suicide. It was determined that family cohesion can offset life stressors. They also found

that moderate to severe level of depression posed an internal risk factor for suicidal behavior in adolescents. Further, those who scored in the clinically depressed range on the Beck Depression Scale were at a greater risk for suicidal ideation.

Depression is frequently associated with suicidal ideation and suicidal behavior in adolescents (Brent, Baugher, Bridge, Chen, & Chiapptta, 1999, as cited in Ang & Huan, 2006). The depression-suicidal ideation link has also been documented in research studies conducted with Asian adolescents. In a sample of more than 9,000 Korean high school students, Juon, Nam, and Ensminger (1994) found depression to be the strongest and most consistent predictor of suicidal behaviors; students who had high scores on depression were 5.31 times more likely to report suicidal ideas and 3.19 times more likely to attempt suicide, as compared to those with low scores.

While the depression-suicidal ideation link is fairly well established, interestingly, using partial correlational analyses, De Man (1999) found that removal of the effect of depression resulted in a reduction in the respective relationships between suicide ideation and its correlates (e.g., stress and social support satisfaction). De Man (1999) argued that adolescent depression could function possibly as a third variable accounting for the relationship between stress (among other variables) and suicidal ideation.

Studies using self-report measures have found that females report higher mean levels of depressive symptomatology and a greater proportion of females score above standard cut-off points for identifying depression compared with males (Roberts, Andrews, Lewinsohn, & Hops, 1990, as cited in Allison, Roeger, Martin, & Keeves, 2001). Despite a range of promising hypotheses, the reason for this increase in rates of depression for females is not clear (Bebbington, 1998). Community surveys have found

particularly high levels of suicidal ideation after the early adolescent phase of development (Fergusson & Lynskey; 1995) with female usually reporting higher rates of ideation than males (Canetto, 1997; Garrison, Addy, Jackson, McKeown, & Waller, 1991; Lewinsohn, Rohde, & Seeley, 1994; Marcenko, Fishman, & Friedman, 1999; Swanson, Linskey, Quintero-Salinas, Pumariega, & Holzer, 1992).

Indeed, although research has indicated that several of these risk factors are associated positively with suicide related behaviors (e.g., Earle, Forquer, Volo, & McDonnell, 1994; Eyman & Eyman, 1992; Gibbs, 1997; Tatman, Greene, & Karr, 1993), clinical research suggest that suicide ideation may be multifaceted (e.g. Perkins & Hartless, 2002). For example, some individuals who are at severe risk for suicide ideation still may report some desire or wish to live (Turner, Korslund, Barnett, & Josiassen, 1998). Furthermore, considered alone, negative risk factors such as major depressive disorder and poor self-esteem may not always be specific to self-harmful behaviors (e.g. Miller & Glinski, 2000; Rao, Weissman, Martin, & Hammond, 1993).

Protective Factors

On the positive side at each level within the framework there are protective factors that reduce the risk of suicide. Protective factors serve as those supportive conditions (buffers) that prevent the individual from engaging in intentional self-harmful behaviors. In other words, protective factors are those dynamics that lessen, compensate or protect individuals from exposure and impact to risk factors. Research into protective factors such as well-being, optimism, connectedness and resilience as related to suicide is limited. Clients who express suicidal ideation and not intention, who have considered non-lethal method, who have no history of self harm and who are coping relatively well

with recent stressful life event are at lower risk. Specific demographic profiles and personality trait profiles, the absence of psychological disorders, good physical health, a supportive family and social context and good engagement with the treatment system are also all protective factors.

Future expectations / future optimism, family relations / family alliance, self-acceptance / positive self-evaluation, coping and peer relation / peer acceptance are related to protective factors / dimensions of suicide.

Apter (1982) emphasized that understanding the adolescents' concerns, meeting their needs and building up their surrounding support system are necessary to foster adolescent psychological health. In line with the human ecological perspective, several studies have pointed out the need to strengthen the protective functions of the family, peer, and school simultaneously (for example, to enhance good family relationships, feeling close to parents, feeling liked by friends and feeling connected to school), in order to prevent adolescent suicide (Anteghini, Fonseca, Ireland, & Blum, 2001; Resnick et al., 1997; Zweig, Phillips, & Lindberg, 2002).

Before presenting a review of researches, concepts of stress, social support and optimism will be discussed.

Stress

Stress is part of our everyday life. The modern world, which is said to be a world of achievement, is also a world of stress. As modern times have been called the "age of anxiety and stress" (Coleman, 1976), stress is an unavoidable consequence of life, without stress there is no life. Today, the term is used in every day vocabulary to capture a variety of human experiences that are disturbing or disruptive. Subjective sensations

commonly experienced in conjunction with "feeling stressed" are headache, shortness of breath, light-headedness or dizziness, nausea, muscles tension, fatigue, gnawing in the gut, palpitations, loss of appetite or hunger, and problem with sleep. Behavioral manifestations of stress commonly reported are crying, smoking, excessive eating, drinking alcohol, fast talking, and trembling.

The word 'stress' dates back to the 14th century and it derives from the Middle French word *destresse* ("distress"), which in turn derives from the Latin *strictus* ("compressed"). Various forms of words originally denoted hardship or adversity. By the 16th century the word was employed to indicate subjecting an entity "(a material thing, a bodily organ, a mental faculty) to stress or strain; to overwork, fatigue" (Simpson & Weiner, 1989, as cited in Woolfolk, Lehrer, & Allen, 2007). In the 19th century, *stress* became a precise scientific term employed within physics, used to refer to force applied to objects that could potentially result in deformation or strain. According to Galbraith, the 17th century has been called the 'Age of Enlightenment', the 18th 'The Age of Reason', the 19th 'The Age of Progress', and the 20th 'Age of Anxiety', (Galbraith, 1977).

Stress is difficult to define because it means different things to different people. The theoretical orientations for explaining stress have been categorized into three types: response based, stimulus based, and transactional based:

Stress as a Response: Stress is a very complex set of physiological and psychological reactions. The great physiologist Cannon (1939), although he used the term stress infrequently, originated our modern biomedical concept of stress as involving a perturbation of somatic homeostasis by external threats that induce a mobilization of bodily resources to contend with the circumstances. Cannon coined the term *fight or*

flight response to describe a mobilization of the organism that prepares it more effectively to aggress or to flee.

Selye (1956) expanded on Cannon's work and viewed stress as a response to noxious stimuli or environmental stressors and defined it as the "nonspecific response of the body to noxious stimuli" (Selye, 1956, p. 12). He described three stages of physiological response pattern known as the General Adaptation Syndrome (GAS).

Stress as a Stimulus: Stimulus-based definitions of stress have their roots in physics and engineering, the analogy being that stress can be defined as a force exerted, which in turn results in a demand or load reaction, hence creating distortion. If the organism's tolerance level is exceeded, temporary or permanent damage occurs. In short, this model of stress treats stress as an independent variable that elicits some response from the person. Identification of potential sources of stress is the central theme of the stimulus-based model of stress (Goodell, Wolf, & Rogers, 1986). The rationale of this approach is that some external forces impinge on the organism in a disruptive way.

In the 1960s, psychologists become interested in applying the concept of stress to psychological experiences. Masuda and Holmes (1967) and Holmes and Rahe (1967), stimulated by their interest in what happens when a person experiences "change" in life circumstances, proposed a stimulus-based theory of stress. The stimulus approach treats life changes or "life events" as the stressors to which a person responds. Therefore, unlike the response based model stress is the independent variable in research. The central proposition of the stimulus model is that too many life changes increase one's vulnerability to illness.

Stress as a Transaction: Psychological stress then is not defined solely in terms of the stimulus condition or solely in terms of the response variables but rather in terms of the transaction between the person and the environment. The most influential model of psychological stress has been the one proposed by Lazarus (1966, 1977). Lazarus developed and tested a transactional model of stress (Lazarus, 1966; Lazarus & Folkman, 1984). He believed that stress as a concept has heuristic value, but in and of itself was not measurable as a single variable. He also (1966) contended that stress does not exist in the "event" but rather it is a result of a transaction between a person and his or her environment. As such, stress encompasses a set of cognitive, affective, and coping variables.

Lazarus (1966) and Lazarus and Folkman (1984) asserted that the primary mediator of person environment transaction was appraisal. Appraisals refer to an individual's interpretation of the meaning and implications of an event for one's well-being (Lazarus, 1991; Lazarus & Folkman, 1984; Smith & Lazarus, 1993). In the 1970s, Lazarus (1976) suggested that an individual's stress reaction "depends on how the person interprets or appraises (consciously or unconsciously) the significance of a harmful, threatening or challenging event." Three types of appraisal were identified: primary, secondary, and reappraisal.

Clearly, in other words, according to Lazarus and Folkman, two psychologists who have been important in developing a psychological theory of stress, stress is defined neither by an environmental event nor by a person's physiologic response to it. Rather, stress is defined by the person's *perception* of the environmental event, this perception involves the appraisal of potential harm, threats, and challenges posed by the event, as

well as the individual's perceived ability to deal (or cope) with the harms, threats and challenges. Thus, stress arise when a person appraises a situation as threatening or otherwise demanding, perceives that it is important to respond, and does not have an appropriate coping response immediately available.

Stress is a consequence of or a response to an action, situation or force that places special physical demands, psychological demands, or both on a person (Ivancevich & Matteson, 1988). Baum described stress as "a negative emotional experience accompanied by predictable biochemical, physiological, and behavioral changes that are directed toward adaptation either by manipulating the situation to alter the stressor or by accommodating its effects" (Baum, 1990, p. 653).

According to McKenna (1994), "In human terms any situation that is seen as burdensome, threatening, ambiguous or boring is likely to induce stress. This is the type of situation that would normally strike the individual as deserving immediate attention or concern and is viewed as unfortunate or annoying. These tend to be the feeling that the situation should not exist, but because of it the person feels disappointed or annoyed and eventually is prone to anxiety, depression, anger, hostility, inadequacy, and low frustration tolerance," (p. 585).

Sarafino (1994) said "stress is the condition that results when person/environment transaction leads the individual to perceive a discrepancy - whether real or not - between the demands of a situation and the resources of the person's biological, psychological or social system."

Ahmad (1998) integrated the ideas given by stress researchers (e.g., Cox, 1978; Lazarus & Folkman, 1984; Singer & Davidson, 1986; Trumbal & Appley, 1986) and

concluded that "Stress is a condition involving psychological and physiological responses resulting from transactions between the individual and his (her) environment which foster the perception and belief, sometimes even wrongly that his (her) bio-psycho-social resources are insufficient to meet the demand of a situation" (p.108).

Stress and Health / Well being

Several different health related disciplines (e.g., psychology, social psychology, nursing, and medicine) have identified stress as important variable affecting health. The human response to stress is complex and multidimensional. Stress affects the individuals at several levels. Specially it affects the human beings physiologicaly, emotionaly and psychologicaly. Psychological effects of stress are associated with the onset of depression and anxiety. Stress has been linked to the onset of diseases, such as cardiovascular conditions (e.g., Pashkow, 1999), cancer (e.g., Cohen & Robin, 1998), and cold (Cohen et al., 1998) as well as the exacerbation of symptoms such as asthma (Wright, Rodriquez, & Cohen, 1998), skin disorders (Lebwohl & Tan, 1998) and diabetes (Inui et al., 1998). In addition, stress has been linked to symptomatic experiences such as headaches (e.g. Davis, Holm, Myers, & Suda, 1998) and fatigue (Glaser & Kiecolt-Glaser, 1998).

All these studies indicate a relationship between stressors on the one hand and physical and mental wellness or illness on the other. Palsane and Ram (1999) described these retationship which is seen from the following figure:

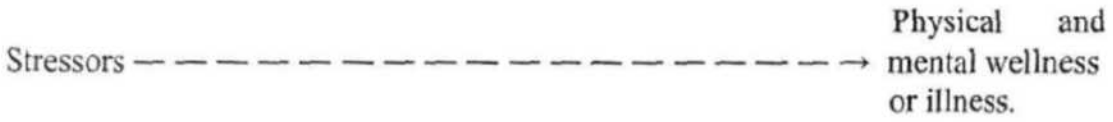

Figure 1. Relationship between stress and health.
(*Source:* Palsane & Ram, 1999)

The stressors in others words are related to physical and mental illness or well-being. Over the last two decades, considerable evidence has accumulated suggesting that stressful life events are linked to low psychological well-being or ill health. There are, however, some intervening variables related to the strengths and weaknesses of individuals, groups or communities. These may be genetic, congenital, cognitive motivational, social, and cultural in nature. Therefore, the intervening variables may fall into two major categories, i.e. individual variables and social cultural variables. This is seen in the following Figure 2, a modification of previous figure 1:

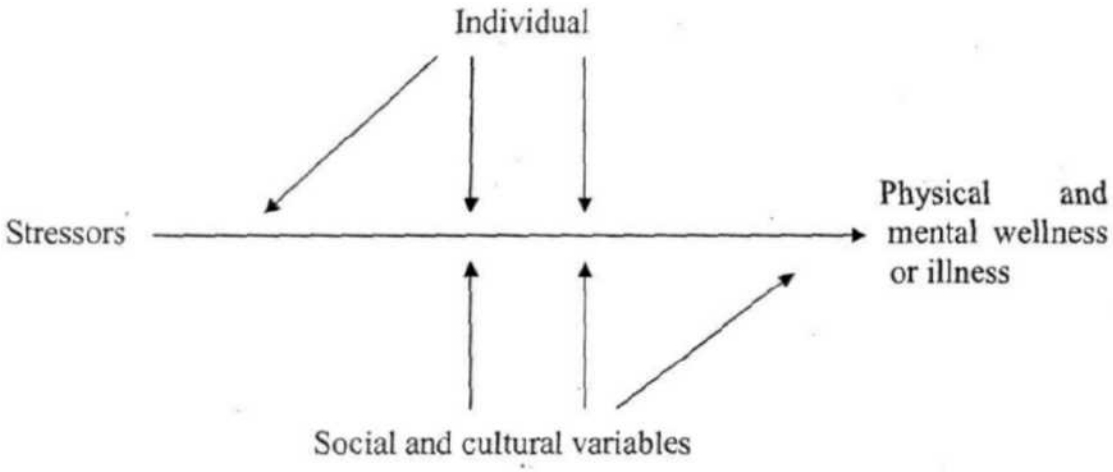

Figure 2. Relationship between stress and health through individual and socio-cultural variables.
(*Source:* Palsane & Ram, 1999)

This model brings out the fact that the relationship between stress and illness is often mediated or moderated by the two sets of variables, those within and those outside the individual (Palsane & Ram, 1999). The mechanism linking stress to illness may include disorders in neuroendocrine or immune system (Levy & Wise, 1987; O'Leary,

1990) or changes in health related behaviors (alcohol use, poor diet deficiencies in exercise patterns, failure in self-care) or a combination of the two (Cohen & Wills, 1985; Broadhead & Kaplan, 1991).

Stressors and Stressor Types

Stressors are circumstances that represent a threat, obstacles, loss or scarcity of resources (Hobfoll, 1989). Stressors are the source of the stress state in the external environment affecting the organism. Stressors can be objectively perceptible and assessed, as well as self-reported. In other words, the physical and psychological demands from the environment that causes stress are stressors. Stressors are of various kind- organic, personality related, personal, familial, social, role-related occupational, and environmental. Stressors have one thing in common, however, they create stress or the potential for stress when individuals perceive them as presenting a demand that may exceed their ability or capacity to respond. Researchers working in natural life settings focused on the effects of specific stressful life events, such as widowhood (Parkes, 1972), severe injury, and loss of job (Leana & Feldman, 1992), but attempt to organize the source of human stress in scheme of classification of environmental stressors have resulted into various subtypes, such as psychological stressors (loss of love, unconscious conflict and threat in anticipation of future harm), social stressors (social and cultural limitations, demographic shifts, access to technology), economic stressors (poverty and unemployment), and political stressors (corruption, nepotism, political exploitation, state terrorism etc.). The social stressors have been further classified as macro and micro social stressors, by virtue of the extensiveness and their scope of their likely impact.

Stressors and the associated stress are also categorized as academic, medical, general etc. (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001), depending on the context of origin, and understanding of the person relevant to the domain of activity. Some of the stressor types found in psychological researches are as follows:

1. **Major Life Events:** Homles and Rahe (1967) initiated the life event approach. Life events, as embodied in the literature have the following characteristics: they are discrete, observable events standing for significant life changes, with a relatively clear onset and offset and made up of, once in motion a relatively well-defined set of sub event describing the "normal" progress of event. Some events, of course, have little internal structure, such as the death of a pet, but most others actually involve a process, often a partially ritualized process. Divorce, job loss, death of a spouse, etc., are classic examples.

2. **Chronic Stressors:** Chronic stressors are continuous stressors in an approximate sense, standing for problem and issues that are either so regular in the enactment of daily roles and activities or defined by the nature of daily role enactment or activities that they behave as if they are continuous for the individuals. Chronic stressors are less self-limiting in nature than the typical life event. Although chronic stress is most often associated with the problem of overload, it is more than that. Mostly, it arises from one of the many array of problem: excessive task or role demand, excessive complexity, uncertainty, conflict, restriction

of choice or under reward, as noted earlier. In Pearlin's words these are "the enduring problems, conflict, and threats that many people face in their daily lives" (Pearlin, 1989).

3. **Daily Hassles:** Hassles are defined as "irritating, frustrating, distressing demands that to some degree characterize everyday transaction with the environment" (Kanner, Cyne, Schaefer, & Lazarus, 1981). An important phrase is the qualifying "to some degree". These items refers to such issues as "troublesome neighbors," "misplacing or losing things," "care for a pet," "repairing things around the house," "having to wait," "too many interruptions", "preparing meals" and "traffic problems."

4. **Macro Stressors:** There are such things as micro stressors, there must be macro stressors as well. Daily hassles refer to stressors that occur as the experienced juncture of daily life and micro social routines. At the other extreme, we have what may be called system stressor. These are stressors that occur at the macrosocial system level and almost by nature, cannot be considered features of daily life at the interpersonal level. The predominant focus in this approach has been the issues of economic recessions, usually embodied in studies on the unemployment rate (Brenner, 1973; Dooley & Catalano, 1984). However, a number of other macro system stressors are qualified and they can include are the divorce rate, infant deaths, high school dropout rate and disasters. As a group, then, these stressors contain both event and chronic concerns.

5. **Nonevents:** Gersten, Langner, Eisenberg, and Orzek (1974) used the arousal theory to point out that lack of change can be as stressful as change. They use this point, however, not to suggest the importance of chronic stressors, but of a closely related kind of stressor that they term "nonevents" (Gersten et al., 1974). They define a nonevent as an "event that is desired or anticipated and does not occur. Alternatively, a nonevent could be seen as something desirable which does not occur when its occurrence is normative for people of certain group." Thus, an anticipated promotion that does not occur, or not being married by age thirty-five when you want to be, can be considered nonevents.

6. **Traumas:** There are stressors that are so serious, so overwhelming in their impact that we must give them separate status to distinguish them from the usual class of events that we designate as stressful. The most applicable term for these stressors is trauma, although this term has the additional connotation of physical damage which is not implied. These are the "spectacular" horrifying, or deeply disturbing experiences of life that a few experience, but most who do experience some impact. There are many different forms traumas can take, including war stress, sniper fire (Pynoos, 1987).

Adolescent Stress / Stressors

Some researchers have found the stressors age-specific, as what may be stressful to a child in formative years may not remain stressful at adolescence, and what may be

stressful in adolescence may not be so for young adults, and so on. For adolescents, problems with family relationships, peer relations, and school achievement are the common cause of stress. Grade transitions, pubertal changes, pressure to conform, and heightened temptation to indulge with friends in risky behaviors may be potentially stressful for the changing adolescent (Graber & Brooks-Gunn, 1996; Grant, O'Koon, Davis, & Roache, 2000). For the college student, stressors are inherent in the maintenance of grades, friends, limited opportunities of developing social circle, political freedom, and lack of employment, etc. (Beard, Elmore, & Lange, 1982).

According to Compas (1987), adolescent experiences three types of stresses, namely; major life changes, chronically stressed life conditions, and day to day hassles. The majority of adolescents in real life are found affected most by daily hassles (Lazarus & Delongis, 1983). The three notable daily hassles included the problems in family relationships, school achievement and peer relations. In a study of 484 students in 9^{th} – 12^{th} grades, Phelps and Jarvis (1994) noted that adolescent stressors emanate mainly from parental and peer conflicts, grades, academic concerns, and extra-curricular activities.

Throughout the adolescent years, stressful experiences are also considered to be increasing in intensity, as prominent stressors involving family dysfunction, peer demands and academic concerns are faced by adolescents (Frydenberg & Lewis, 1991).

In India whatever researches have so for been done in the area of stress, focus basically on adult population (Saxena & Mohan, 1982; Sharma, 1988), with emphasis on work area stress. Only few studies have been conducted on stress among adolescent students. Some studies predict sex-differences in stress level among adolescents (Kumari & Prakash, 1986; Verma & Upadhyay, 1981) and others deny this (Shejwal & Ram,

1983). According to Hussain, Kumar and Hussain (2008), stress and anxiety in children and teenagers are just as prevalent as in adults. Negligence of parents, high expectations in academic or other performances, abused childhood, growing up tensions and demand for familial responsibility etc., are the main causes of childhood and teen stress. A study conducted by Srinivas (1999) revealed that students experience academic stress more in the areas of inadequate study facilities and fear of failure than in other areas i.e., teacher-pupil relationship, interpersonal difficulties, and personal inadequacy.

Academic stress has emerged as a significant mental health problem in adolescents in recent years. Anxiety about examinations and competitiveness in school causes stress and tension in students. Consequently, they feel worried and frustrated. For students in schools and colleges, test anxiety and distress constitute the near-universal experiences, because of the high-test consciousness pervading the modern educational system (Humphrey, 1988). There are also few who feel completely trapped in their situation with no outlet for the tension, and indulge into extremely self-destructive acts, like suicides. Adolescents in schools are found particularly risk-prone under examination stress than young adults and older groups, because of the corresponding age and transition related changes in their life.

Spirito, Brown, Overholser, and Fritz (1989) states "presence of stressful life events.....seems to have important implication for understanding suicide attempts in children and adolescents."

Optimism

For more than two decades, the concept of optimism and pessimism has generated a great deal of research interest in the areas of personality, social, and health psychology.

The term 'optimism' was coined in the 1700's by Jesuit priest to describe God's creation of the best possible world. The term *optimisme* has evolved to include a view of reality that is essentially good (Puskar, Sereika, Lamb, Tusaie-Mumford, & McGuiness, 1999) but may also include positive expectancies for the future. Optimism is a social-cognitive variable which explains individual differences in reaction to the same event. Optimists are people who see the glass as half full, pessimists are those who see it as half empty. Optimism has been recognised as a stable personality dimension. It has been defined as a belief that desirable outcomes are attainable (Scheier & Carver, 1987). Optimists have a favourable outlook of life, expect things to go their way, and believe that good rather than bad things will happen to them (Scheier & Carver, 1985).

Two theories have received the overwhelming majority of the attention in regard to the construct of optimism. The first is learned optimism as studied by Martin Seligman and colleagues, and the second is the view of optimism as advanced by Michael Scheier and Charles Carver.

1. Optimism as Dispositional Characteristic / Life Orientation

Many personality theorists consider optimism as a personality trait comprised of a positive mood or attitude about the future and a tendency to anticipate a favourable outcome to life. They believe that optimism is a dispositional characteristic or life orientation to life events and some people are by nature optimistic while others are pessimistic (Scheier & Carver, 1992).

Scheier and Carver (1985, 1987, 1992) defined dispositional optimism as individuals' stable, generalized expectation that they will experience good things in life. Key in this theory is the principle that people's behaviors are strongly influenced by their belief about the probable outcomes of those behaviors. Outcome expectancies determine whether a person continue striving for a goal or gives up and turns away (Scheier & Carver, 1987). Optimistic outcome expectancies are theorized to lead an individual to engage in active behavior to attain a goal. Pessimistic outcome expectancies, on the other hand, are thought to lead an individual to give up and not engage in behaviours to attain the goal. Pessimism is often assumed to be the opposite of optimism and is typified by a view of the world that hold little promise. Dispositional pessimists (i.e., negative expectation for the future; Carver & Scheier, 2001) experience anxiety, anger, sadness, guilt, and despair (Scheier & Carver, 1992).

Outcome expectancies per se are the best predictors of behaviour rather than bases from which those expectancies were derived. A person may hold favourable expectancies for a number of reasons— personal ability, because the person is lucky, or because others favour him. The results should be an optimistic outlook—expectancies that good things will happen.

Thus, these generalized outcome expectancies may involve perceptions about being able to move towards desirable goals or to move away from undesirable goals (Carver & Scheier, 1999).

2. Optimism as Explanatory Style / or Learned Optimism

Other researchers see optimism as explanatory style or thinking style that can be learned (Seligman, 1991). Optimistic explanatory style is defined as a tendency to make

attributions about hypothetical prior negative events that are external, specific and transient (Gilham, Shatte, Reivich, & Seligman, 2001). This latter definition posits optimism as a state dependent variable that is influenced by the past (i.e., explanations for the events) and also influences the near future (i.e., develops into an expectation; Andersen, 1990). More specifically explanatory style is a reformulation of learned helplessness theory, a theory proposed to account for individual differences in response to uncontrollable events (Abramson, Seligman, & Teasdale, 1978). Researchers of explanatory style focus on the causal explanation of bad (or good) events rather than the causes of uncontrollable events. "A person who explains such events [bad] with stable, global, and internal causes shows more severe helplessness deficits than a person who explains them with unstable, specific, and external causes" (Peterson, Seligman, & Vaillant, 1988, p. 24). Seligman (1991, 1998) later used this attributional and explanatory process as the basis for his theory of learned optimism. Explanatory style is the manner in which an individual habitually explain to himself / herself why events happen.

In the Seligman theory of learned optimism, the optimist uses adaptive causal attributions to explain negative experiences or events. Thus, the person answers the question, "Why did that bad thing happens to me?" In technical terms, the optimists make external, variable, and specific attributions for failure like events rather than the internal, stable, and global attributions of the pessimist. Stated more simply, the optimist explains bad things in such a manner as

(1) to account for the role of other people and environment in producing bad outcomes (i.e., an external attribution),

(2) to interpret the bad event as not likely to happen again (i.e., a variable attribution), and

(3) to constrain the bad outcome to just one performance area and not others (i.e., a specific attribution).

Thus, the optimistic student who has received a poor grade in a high school class would say, (1) "It was poorly worded exam" (external attribution), (2) "I have done better on previous exams" (variable attribution), and (3) "I am doing better in other areas of my life such as my relationships and sports achievements" (specific attribution). Conversely, the pessimist students who has received a poor grade would say, (1) "I screwed up" (internal attribution), (2) "I have done lousy on previous exams (stable attribution), and (3) "I also am not doing well in other areas of my life" (global attribution).

Thus, an optimistic explanatory style stops helplessness and a pessimistic explanatory style spreads helplessness which is a hallmark of future depression.

Seligman and his colleagues (Burns & Seligman, 1989; Peterson et al., 1988) found evidence for a pessimistic explanatory style that may relate to illness. Specifically, some people characteristically explain the negative events of their lives in terms of internal, stable, global qualities of themselves. In so doing, they may lay the groundwork of poor health.

Thus, dispositional optimism is considered a more general and diffuse type of optimism that extends to future goals, whereas optimistic explanatory style is focused on explaining specific past life events (Gilham et al., 2001; Seligman, 1991).

Apart from conceptual differences, dispositional optimism and optimistic explanatory style are often related to different outcomes, although some overlap is seen

which is expected. For instance, dispositional optimism or the optimism in the person's orientation to life is related to decreased distress after serious medical procedures e.g., bypass surgery (Carver et al., 1993), and bone marrow transplants (Curbow, Somerfield, Baker, Wingard, & Legro, 1993), the ability to endure ongoing medical illnesses with better psychological adjustment (Long & Sangster, 1993), increased psychological well-being (Taylor, 1989), and fewer physical symptoms in college students (Scheier & Carver, 1987). An optimistic nature leads people to cope more effectively with stress and thereby reduces their risk for illness (Scheier & Carver, 1985).

Optimistic explanatory style is linked to academic and career success (Peterson & Barrett, 1987; Seligman, 1998), good health and longevity (Peterson, et al., 1988) and more effective problem solving (Shatte, Gillham, & Reivich, 2000; Stark & Boswell, 2000). The optimistic rather than pessimistic explanatory style is also associated with superior athletic performances (Seligman, Nolen-Hoeksema, Thornton, & Thornton, 1990), more productive work records (Seligman & Schulman, 1986), greater satisfaction in interpersonal relationships (Fincham, 2000), more effective coping with life stressors (Nolen-Hoeksema, 2000), less vulnerability to depression (Abramson et al., 2000), and superior physical health (Peterson, 2000a).

In an article on the status of positive psychology research, Peterson (2000b) posited a new framework to use in the distinction of the types of optimism consisting of "big" and "little" optimism. He suggested that specific expectations for a positive outcome fall under the heading of "little" optimism. He continued to explain that this "little" optimism is similar to explanatory style optimism due to their focus on attributing causes to concrete events. Peterson hypothesised that because this form of optimism

appears to exhibit its influence through individuals specific behavioural choices it may have a stronger relation with the onset of disease and likelihood of injuries rather than the outcome of illnesses. Finally, he stated that this "little" optimism may assist people in reaching their desired goals by predisposing them to perform specific learned adaptive functions in response to concrete situations.

In conjunction with his explanation of "little" optimism Peterson explained that larger and broader expectation for the future reflect the concept of "big" optimism category. He further stated that this form of optimism appears to produce a general state of resilience to life experiences. Moreover, he expressed that "big" optimism may have more of a biological tendency than "little" optimism/explanatory style optimism. Therefore, it may also have a larger influence on the outcomes of severe illnesses through its relation to both the immune system and mood.

Optimism vs Pessimism

Optimism is described in terms of generalized expectancies for success, or the belief in future positive outcomes. Optimism enables individuals to restore their efforts to reach goal when faced with obstacles (Scheier, Weintraub, & Carver, 1986). On the other hand, pessimism can be described as the belief or expectation that 'things will not go my way'. In general people with optimistic dispositions assume that good things will happen while those with pessimistic dispositions believe that bad things are highly likely to befall them (Scheier & Carver, 1985).

When coping with stressors, optimists appear to take a problem solving approach (Scheier et al., 1986) and are more planful than pessimists (Fontaine, Manstead, & Wagner, 1993). Furthermore, optimists tend to use the approach-oriented coping

strategies of positive reframing and seeing the best in situations, whereas pessimists are more avoidant and use denial tactics (Carver & Scheier, 2002). Optimists appraise daily stresses in terms of potential growth and tension reduction more than their pessimistic counterparts do. Also, when faced with truly uncontrollable circumstances, optimists tend to accept their plights, whereas pessimists actively deny their problems and thereby tend to make them worse (Carver & Scheier, 1998; Scheier & Carver, 2001). In other words, an optimist knows when to give up and when to keep plugging, whereas the pessimist still pursues a goal when it is not a smart thing to do. Thus optimism may be positively associated with attempts to deal with the stressful situation in a problem-focused way. However, with respect to emotion-focused coping the findings are more ambiguous. These findings (research evidence) suggest that pessimists resort to emotion focused coping strategy more often in dealing with stress.

Findings are inconsistent regarding the relationship between optimism and pessimism (i.e. expecting the best or worst). Some research suggest that they are independent, negatively correlated constructs (Affleck & Tennen, 1996; Puskar et al., 1999; Scheier & Carver, 1985), while other studies have identified dispositional optimism-pessimism as a unidimensional construct on a continuum (Gilham et al., 2001; Snyder, 1994).

Although the benefits of both types of optimism for well being are clear, the mechanism of their action is less obvious. One hypothesis postulates that dispositional optimism and optimistic explanatory style work as buffers or protective factors that provide some measure of resilience against negative physiological and psychological outcomes.

A person who is dispositionaly optimist or has optimistic explanatory style may also be protected by the use of active, adaptive coping strategies (Miller, Manne, Taylor, Keates, & Dougherty, 1996). Scheier and Carver (1993) and Puskar et al. (1999) found that dispositional optimists cope more adaptively than dispositional pessimists and are more likely to tackle problems directly rather than avoiding them. Dispositional optimists are also more likely than dispositional pessimists to accept and attempt to change uncontrollable situations, strive to overcome adversity, and persevere toward the accomplishment of goals (Scheier, Carver, & Bridges, 2001). Such persistence of thought may be due to the dispositional optimist's sense of confidence regarding the attainability of future goals (Carver & Scheier, 2001). Optimism may also enhance well-being by promoting a more realistic and future oriented life perspective (e.g., optimists make the best of their experiences, whereas pessimists often deny the extent of their difficulties; Taylor & Brown, 1988). Optimists as compared to pessimists, also receive greater satisfaction from interpersonal relationships, perceive lesser stress, are better at coping, feel less depressed, and are more socially supported (Scheier & Carver, 1992).

Most previous research in the area of suicidal ideation has focused on the characteristics that confer risk for suicidal thoughts and behaviors, rather than on variables that might buffer against suicidal thoughts and behaviors. A more salutogenic model would suggest that future of psychopathology to develop in persons experiencing negative and potentially traumatic life events might be the result of individual coping processes, such as future orientation or optimism (Snyder et al., 1991).

Findings of the studies on optimism indicate that optimism and hope are associated with reduced depressive symptoms in college students (Range & Penton,

1994; Seligman, Schulman, DeRubeis, & Hollon, 1999), suggesting that college students with an optimistic orientation may be less likely to experience suicidal ideation. These findings provide a reason to believe that optimism might be "protective." As a protective factor, optimism may provide a measure of resilience against negative physiological and psychological outcomes (Miller et al., 1996) via the use of active, adaptive coping strategies (Gum & Snyder, 2002; Scheier & Carver, 1992). Direct engagement of problems, motivation to overcome adversity, and goal persistence are examples (Brissette, Scheier, & Carver, 2002); meaningful and supportive interpersonal relationships may also be important (Chang & Sanna, 2001; Seligman et. al., 1999). Benefits arising from an optimistic perspective may also be due to a sense of confidence regarding the attainability of future goals (Scheier & Carver, 1992), or through the promotion of a more realistic and future oriented life perspective (Taylor & Brown, 1988).

The theoretical approach of Scheier et al. (1989) appears compatible with studies of suicidal ideation. They suggest that as construct, dispositional optimism/ pessimism have implication for future behaviors. An optimistic person may view future goals as attainable and continue to strive toward achieving them even in the face of adversity. Conversely, a pessimistic person may see future goals as unattainable and give up as a result. Applied to suicide, it can be hypothesized that an optimistic person may persevere in the face of suicide-provoking life events, whereas a pessimistic person may cease his or her efforts and disengage from future oriented goals. If this is the case, assessment of optimistic beliefs seem vital in the examination of suicidal behaviour.

Social Support

Man is social by nature and the ordinary healthy human being finds prolonged isolation a severe punishment. Social isolation is a risk factor for death for both humans and animals. Durkheim (1938, 1897/1951) in his studies has linked suicide rates to decreased social ties. The concept of social support began to receive major attention in the 1970s, principally through the work of Antonovsky (1974, 1979), Cassel (1974, 1976; Kaplan, Cassel, & Gore, 1977), Caplan (1974), Weiss (1974), and Cobb (1976) as they began to examine factors that could ameliorate the effects of negative life events.

The concept of social support has variously been defined by the researchers as social bonds (Henderson, 1977), social networks (Mueller, 1980) meaningful social contact (Cassel, 1976), availability of social confidants (Brown, Bhrolchein, & Harris, 1975) and human companionship (Lynch, 1977).

Bowlby (1969) defines social network resources as the available social network relationships that objectively may be called upon for help in times of need and that offer stable attachment to a social group.

Social support refers to the perceived comfort, caring, esteem, or help a person receives from other people or groups (Cobb, 1976; Gentry & Kobasa, 1984; Wallston, Alagana, De Vellis, & De Vellis, 1983; Wills, 1984). Kahn and associates (Kahn, 1979; Kahn & Antonucci, 1980) define social support as the expression of liking, admiration, respect, love, agreement and affirmation as well as provision of direct aid and assistance. Social support is defined as the comfort, assistance and information one receives through formal and informal contacts with individuals or groups (Wallston et al., 1983). According to Shumaker and Brownell (1984) supportive behaviour would be seen as "an

exchange of resources between at least two individuals perceived by the provider or the recipient to be intended to enhance the wellbeing of recipient" (p. 13). Gottlieb (1988) referred to the substance of social support as "the help that the helpers extend". Thoits (1986) argues that support is the degree to which individual's need for affection, approval, belongingness and securities are met by significant others. These interactions tend to be viewed as supportive when they are intended to gratify people's need (Thoits, 1983). Social support is usually defined as existence and availability of people on whom we can rely, people who let us know that they care about, value, and love us. Someone who believes that she or he belongs to a social network of communication and mutual obligation experiences social support (Sarason, Levine, Basham, & Sarason, 1983).

It is apparent from the preceding definitions that social support is a multidimensional construct which not only represents that the person has a social network but also indicates that he is esteemed and cared for. As a product of social activities or transactions he perceives that a support can come from many different sources— the person's spouse or lover, family, friend, co-worker physician, or community organizations.

Models of Social Support

Several models of social support have been proposed by different scholars. First model defines social support in terms of number of persons for social contacts. For example, one study of over six thousand residents of Alameda county, California, used a measure of social support that combined (I) marital status (II) of close friend and relatives (III) church membership and (IV) formal and informal group association (Berkman & Syme, 1979). Women who had good marital relationship were more likely to experience

stress. Because of their traditional responsibilities for taking care of others, women incur higher "costs of caring" than do man (Kessler, 1992).

Second model of social support focuses on a number of helpers available to a person in need. This perspective defines social support in terms of the number of people from whom individual has received support in the recent past. Research has found that individual with a greater number of providers has better health.

Third model, the intimacy model, predicts that having a close confining relationship with the significant other will be associated with better health. Those with the history of close, confining relationship have lower level of suicidal tendency.

Fourth model of social support defines it in term of its perceived availability (Sarason et al., 1983). Compared with those who doubt the adequacy of the social resources, individuals who believed that ample support is available to them cope more effectively in many different situations in school (Cutrona, Cole, Colangelo, Assouline, & Russell, 1994).

Types of Social Support

The dimension of social relationship has been divided into structural aspect (quantity of social relationships or 'social network') and functional aspect (support derived from the network, 'social support'). It has been argued that the perceived adequacy of the support is partially independent of the source of support; adequate support may be derived even from only one very good relationship. On the other hand, a person may perceive lack of support although he has many social contacts (Cohen & Wills, 1985). Empirical studies have shown that a person's own subjective perceptions of received support are positively related to both psychological distress and physical health

outcomes (Cohen & Wills, 1985; Funch, Marshall, & Gebhardt, 1986). Therefore the improvement in perceived social support is the target for psychosocial interventions. According to Caplan's theory (1974), social support implies enduring pattern of continuous or intermittent ties that play a significant role in maintaining the psychological and physical integrity of the individual over time.

Structural Support / Social Networks: In other words, it may be stated that social network resources indicate the type and number of existing relationship person is having who provide him help whenever he needs. Cohen and Syme (1985), and House and Kahn (1985) called social network as structural support. Structural support refers to the existence of an interconnection between social ties (e.g. marital status, close family and friends) participation in group activities and religious group activities. Henderson (1981) has pointed out that other informal avenues of assistance may be obtained and he called them defuse resources. There may be other interpersonal contacts besides gang, friend, and ties with community organization. Cohen (1982) noted "help is where you find it" and he suggests the source of support may be formal, institutional or internal help. These definitions suggest that, there is a growing recognition that social support is a complex, multi-faceted phenomenon. Vaux et al. (1986) suggested that social support is best seen as comprising the three components of (1) social network resources (the size, structure and relationship characteristics of support networks); (2) specific support acts (listening, confronting, advising, loaning money, socializing or assisting with tasks); and (3) subjective appraisals of support.

Functional Social Support: Cohen and Wills (1985) have defined social support in terms of functional support. According to them functional support indicates whether

interpersonal relationships serve particular function or not (e.g. provide affection, feeling or belonging on material aid). Research on the dimensions and measurement of social support suggests that social support can be classified into four dimensions: (a) social embeddedness (the number of members in the social support networks and their characteristics), (b) needed support (support required by an individual), (c) perceived support (perceived availability of support) and (d) actual support (support actually received in the past). Jou (1994) categorized needed, perceived and actual support as functional support. Cobb (1976) defined support as information leading the subject to believe that he is cared for and loved, he is esteemed and valued, and he belongs to a network of communication and mutual obligation. Functional support has shown to be a stronger predictor of physical as well as psychological health outcomes than the social networks (Cohen & Wills, 1985).

Researchers have suggested that there are five types of social support (Cohen & McKay, 1984; Cohen & Wills, 1985; House, 1985; Schaefer, Coyne, & Lazarus, 1981; Wills, 1984).

1. Emotional Support: It involves the expression of sympathy, caring, and concern toward the person. It provides the person with a sense of comfort, reassurance, belongingness, and being loved in times of stress.

2. Esteem Support: Esteem support occurs through people's expression of positive regard for the person, encouragement and agreement with the individual's ideas or feelings, and positive comparison of the person with others, such as people who are less able or worse off. This kind of support required to build the individual's feeling of self-worth, competence, and of being valued. Esteem support is especially useful during the

appraisal of stress, such as when the person assesses whether the demands exceed his or her personal resources.

3. Tangible or Instrumental Support: This type of support involves direct assistance, as when people give or lend the person money or help out at the times of stress.

4. Informational Support: Informational support includes giving advice, directions, suggestions or feedback about how the person is doing. For example, a person who is ill might get information from family or a physician on how to treat the illness.

5. Network Support or Structural support: It provides a feeling of membership in a group of people who share interacts and social activities.

6. Perceived Support vs Received Support: Social support has also been categorised as perceived support and received support. Perceived support generally refers to the psychological sense of support derived from feeling loved, valued, and part of a network of reliable and trusted special relationships (Gottlieb, 1985). It is more stable overtime because it is not context dependent. Received support, on the other hand, represents concrete instances of helping derived from one's social network, with this help or 'provisions' usually being categorized as emotional support, instrumental support, appraisal support, and informational support (House & Kahn, 1985). Some authors have used the term 'enacted' support in the place of received support (Barrera, 1986; Tardy, 1985).

The type of support a person receives and needs depend on the stressful events. For example, instrumental and structural support may be more important for friends and

family members, emotional and informational support may be particularly important for people who are seriously ill.

Inspite of the diversity of approaches, some clear commonalities and differences in orientation, and a consensually valid set of types of social support have been delineated (Vaux, 1988). One apparent commonality is that social support is frequently considered to be a multidimensional construct. The examples of social support considered in the literature include emotional support, instrumental and tangible support and informational support. Social support can be provided by supportive people who stand in any of a variety of role relationship to the focal person. Further, different types and functions of social support at different periods of time need to be emphasized since the meaning and significance of social support may vary throughout the life cycle.

Sources of Social Support

Support relationship may be categorized by source, such as whether they are with family members, peers and friends, teachers or fellow workers, or persons with the same problems.

Family Support: Family members, particularly parents and spouses are important sources of support (especially generalized support) in many contexts, including school, college, and young adulthood etc. Family relationship, compared to other social ties, often involved greater commitment and personal knowledge of the individual and support that is generalized as well as specific. However, they also mean greater obligation for the reciprocity and greater potential for conflict (Hobfoll & Vaux, 1993) and they may not be useful for every stressor (Gore & Aseltine, 1995).

Friend's / Peer's Support: Friends are an important source of support across the life span, although their influence does not always promote adaptive coping (e.g., Seidman, Allen, Aber, Mitchell, & Feinman, 1994). Differences in the effect of support from friends is likely to be very contextual.

At times, social support is considered a global concept, consisting of feelings of esteem and care from a variety of sources or a network. Other studies, however, have defined support as a singular dimension, such as an influential relationship with one significant person.

Global Social Support: Global social support is indicated when the measure of social support is primarily an overall rating across multiple sources.

Significant Other's Support: Besides the global concept of social support, some research provide evidence that simply having a significant relationship with an adult is important as a buffer from major life events for children as well as adolescents. Some studies suggest that having a stable relationship with someone (not necessarily a parent) is associated with better social adjustment (Jenkins & Smith, 1990; Pringle & Clifford, 1962; Wagner, Cohen, & Brook, 1996; Wolkind, 1974).

Functions or Role of Social Support

Lack of social support has been associated with risks for emotional problems, excessive worry, self- preoccupation and stress proneness (Blazer, 1982; House, Robbins, & Metzer, 1982) and suicide or suicidal ideation also.

There is growing evidence that social support is positively related to psychological well being (e.g., Cohen & Syme, 1985; Kasl & Cooper, 1987; Kumari & Sharma, 1990; Leiter, 1991; Sandler & Barrera, 1984; Sarason, Shearin, Pierce, &

Sarason, 1987; Schwarzer & Leppin, 1991). During the last two decades, the predominant paradigm in the social support literature examines social support as an exogenous variable enhancing well-being / health irrespective of stress level (direct or main effect hypothesis) or protecting people from the pathogenic effect of stressful events (buffering hypothesis).

A large and growing literature elucidates the psychological and physiological benefits of social support to individual recovering from a wide array of physical and psychosocial stressors. High social support from classmates and teachers was found to be associated positively with low psychosocial complaint (Torsheim & Wold, 2001). Social support is known to reduce psychological distress during stressful time (Cohen & Wills, 1985). In addition to providing psychosocial benefits, social support appears to lower the likelihood of illness, to speed recovery from illness, and to reduce the risk of mortality due to serious disease. Studies that control for initial health status indicate that people with a high quantity or quality of social support have lower mortality rates. Social support also enhances the prospects of recovery among people who are already ill, a relationship that had been uncovered in a broad array of specific diseases.

Social support may not only enable people to cope more successfully with stressful events, but may also influence stress-related behaviors that can function proactively to eliminate stressful events before they occur and / or to present a stressful event from intruding into other aspects of life, for example social support has an effect on health habits as well as on health (Umberson, 1987). These functional aspects of social support may serve to contain a stressful event or to minimize its adverse health effects.

Observations in a variety of settings have led to the idea that social support (a) contributes to positive adjustment and personal developments and increased well-being in general (Cohen & Wills, 1985; Major et al., 1990) and (b) provides a buffer against the psychological consequences of exposure to stressful life events (Cohen & Syme, 1985; Cohen & Wills, 1985; Kessler & McLeod, 1985).

Social support is widely recognised as an important factor for mental health and well-being (e.g., Kazarian & McCabe, 1991). Increased social support has shown to be predictive of lower subsequent depression symptoms and recovery from depression (Lara, Leader, & Klein, 1997). Various authors (e.g. Sarason, Sarason, Potter, & Antoni, 1985; Schaefer et al., 1981) have demonstrated that adequacy of social support is directly related to the reported severity of psychological and physical symptoms and can also act as a buffer between negative life events and these symptoms. Lower level of social support have been related to higher ratings of loneliness in college samples (Jackson, Fritch, Nagasaka, & Gunderson, 2002).

Many authors (e.g. Brissette et al., 2002; Levendosky, Huth-Bocks, & Semel, 2002; Sarason et al., 1987; Wu & Serper, 1999) have found evidence that perceived social support functions as a protective factor against mental health problems. According to Cobb (1976) and Cohen and Wills (1985) social support protect the individual from the potentially harmful effect of stress.

Beside expectations, social support is also related to subjective well being (Kahn, Hessling, & Russell, 2003; Mikulincer & Florian, 1998), as well as to depression (Sayal et al., 2002). It is also related to the progress of a variety of chronic conditions, such as cardiovascular disease, cancer and many others (Bisschop, Kriegsman, Beekman, &

Deeg, 2004; Garssen, 2004; Heckman, 2003; King, 1997). Hogan, Linden, and Najarian (2002) and Rhodes (2004) suggest that individuals with more supportive families or friends have a better health status and they recover faster from health problems compared to persons who are less socially integrated. Social support seems to exert influence on health both directly and indirectly through certain cognitive mechanisms, coping strategies, and health behaviors (Cohen & Wills, 1985; Davis & Swan, 1999; Wills & Fegan, 2001).

The focus of social support was addressed in some detail by Cohen and Syme (1985), who examined the impact of social support on disease etiology and on recovery from illness. Social support is conceptualized by these authors as a protective factor that aids in the maintenance of health as well as in the disease recovery. There have been several proposals regarding the mechanism of social support's positive effect on health. By enhancing self-esteem and positive feelings, social support may indirectly strengthen the immune system thereby speeding recovering from illness and reducing susceptibility to disease (Cohen & Syme, 1985; Jemmott & Locke, 1984). Supportive relationships with others may also aid in health maintenance and recovery by helping to promote healthy behaviors (e.g. compliance with prescribed health care, smoking cessation etc., (Brownell & Shumaker, 1984).

Mechanisms of Effect

Besides the documenting a relation between these variables, the more substantial question asks how this relation operates. In this regard two main hypotheses have been presented by the researchers—direct effect hypothesis and buffering effect hypothesis. Some researchers have also suggested a mediational role of social support.

- **Main Effect / Direct Effect Hypothesis:** First, social support may operate as a main effect with adaptive bahavior increasing as social support increases. Models that hypothesize and test the main effect of social support propose that there is a direct relationship between social support and outcome variables such as well being. The main effect of social support have been supported in many studies. For example, Hatchett, Friend, Symister, and Wadhua (1997) studied 42 end-stage renal disease patients. The Inventory of Socially Supportive Behaviors (Barrera, Sandler, & Ramsey, 1981) was used to measure the exchange of four forms of social support (emotional, instrumental, appraisal and informational). They found that increased perceived social support from family correlated with decreased hopelessness ($r = .25$, $p < .05$). Increased perceived support from the medical staff was correlated with increased optimism ($r = .27$, $p < .05$).

  This hypothesis maintains that social support is beneficial to health and well-being regardless of the amount of stress people experience—the beneficial effect are similar under high and low stressor intensities. There is some evidence to support the hypothesis that support may produce helpful effect directly regardless of the level of stress or disruption in a person's life (Broadhead et al., 1983). How do direct effect works? There are several ways by which direct effects may work (Cohen & Wills, 1985; Wortman & Dunkel-Schetter, 1987). One way is that people with high levels of social support may have strong feelings of belongingness and self-esteem. The positive outlook/effects of this hypothesis could be beneficial to health independently of stress experiences, such as making individuals more resistance to infection. Studies have found that lower blood

pressure in both daily life and laboratory tests among middle aged and younger adults with higher level of social support regardless of stress level (Carels, Blumenthal, & Sherwood, 1998; Uchino, Holt-Lunstad, Uno, Betancourt, & Garvey, 1999). Other evidence suggest that high level of support may encourage people to lead healthful life style (Broman, 1993, Peirce, Frone, Russell, Cooper, & Mudar, 2000). People with social support may feel, for example that because others care about them and need them, they should exercise, eat well, seek medical attention before a problem becomes serious and not smoke or drunk heavily.

- **Moderating or Buffering Effect / Buffering Hypothesis:** However, others have argued that social support act primarily as a buffer, protecting individuals from the harmful effects of stress (Cohen & McKay, 1984; Gore, 1981; House, 1981). Moderating effects are at times the most misunderstood of of the effects models. Antonovsky (1979) suggested that resources such as social support can increase a person's resistance to stress. A moderating effect is achieved (as following figure / diagram) When a "third variable affects the zero-order

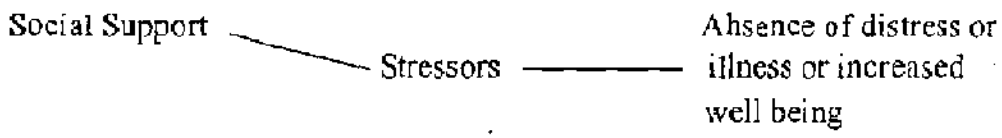

Figure 3. Moderating or Buffering Effect of Social Support.
(*Source:* Underwood, 2000)

correlation between two other variables" (Hurley-Wilson, 1993, p.137). Moderators are antecedent conditions that interact with a stressor to affect the outcome. In this model, social support is thought to protect the individual from

the potentially harmful effects of exposure to a stressor. It is unclear whether it works through influencing the individual's appraisal of a potential stressor. It might be fruitful to study whether having a strong support network would act as a moderator by producing a healthier environment, by decreasing events appraised as threatening or harmful, or both. Pearlin (1989) supported the idea that social support forms a shield that insulates the individual from stress exposure; Chan and Ward (1993) suggested that social support acts to reduce the risk of illness by reducing harmful stress appraisal .

The moderating or buffering effect has been supported by several researchers (Alloway & Bebbington, 1987; Cassel, 1976; Cobb, 1976; Cohen, 1988; Cohen & Wills, 1985; Dean & Lin, 1977; Kaplan et al., 1977).

According to buffering hypothesis social support affects health by protecting the person against the negative effect of high stress. This protective function is effective only or mainly when the person encounters a strong stressor. Under low-stress conditions, little or no buffering occurs. How may buffering works? Cohen and Wills (1985) suggested that there are at least two ways of the buffering process. One way involves the process of cognitive appraisal. When people encounter a strong stressor, such as major financial crisis, those who have high levels of social support may be less likely to appraise the situation as stressful than those with low levels of support. Individuals with high social support may expect that someone they know will help them, such as by lending money or giving advice on how to get it. Second, social support may modify people's response to a stressor after the initial appraisal. In other words, social

support can buffer the effects of stress by modifying people's response to a stressor after they have appraise the situation as stressful. For instance people with high social support might have someone provide a solution to the problem, convince them that the problem is not very important, or cheer them on to "look on the bright side." People with little social support are much less likely to have any of these advantages; the negative impact of the stress is therefore greater for them than for those with high levels of social support.

In short, to explain how social support may influence health and well being researchers have proposed two theories: the "buffering" and the direct affect" (or main effects") hypotheses (Wills & Fegan, 2001). Studies have found evidence consistent with both theories (Cohen & Wills, 1985; Thoits, 1982; Wortman & Dunkel-Schetter, 1987). Additional way in which social support may moderate stress have intensive attention. One hypothesis maintains that social support is generally beneficial during non-stressful periods as well as during stressful periods (the direct effect hypothesis). The buffering hypothesis maintains that physical and mental health benefits of social support are chiefly evident during period of high stress; when there is little stress, social support may have few physical or mental health benefits. Evidence for both direct effects and buffering effects of social support has emerged (Cohen & Hoberman, 1983; Cohen & McKay, 1984; Wills 1984). It may be that both hypotheses have validity. That is although social support may be directly helpful in all circumstances, it may be particularly effective as a buffer during time of stress. Generally, when researchers have studied social support in social integration

terms, including number of individuals one identifies as friends or number of organizations one belongs to direct effect of social support have been found. When social support has been assessed qualitatively as through the degree to which an individual feels there are those in the environment who can help him if he needs it, buffering effects have been found (Cohen & Wills, 1985).

- **Mediating Effects:** A third role of social support is that of the relationship between stress and health or coping outcome as following figure:

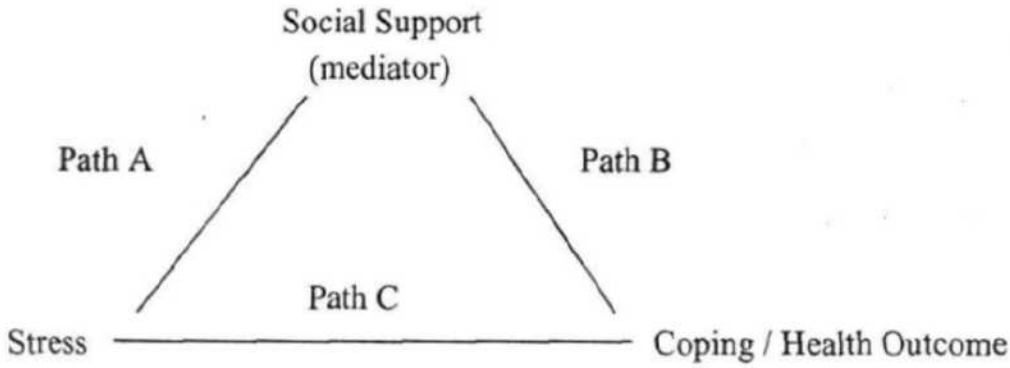

Figure 4. The Mediating Effect of Social Support.
(*Source:* Underwood, 2000)

Baron and Kenny (1986) noted that the mediator effect occurs when "variations in levels of the independent variable significantly account for variations in the presumed mediator (path A), variations in the mediator significantly account for variations in the dependent variable (Path B), and when Path A and B are controlled, a previously significant relationship between the independent and dependent variables is no longer significant (Path C)" (p. 1178).

Runtz and Schallow (1997) examined the role of social support in mediating the relationship between maltreatment as a child and adult adjustment. The role of social support as a mediator was confirmed. Social support explained

55% of the variance in adjustment. In their conclusions the authors stated that these findings supported the contentions of others that social support act as a buffer of stress.

Indian context

In India most adolescent at the secondary and the senior secondary stage (particularly in science stream) go through the experience of a very high degree of examination stress. They have the pressure of numbers (lakh of students appearing in the examination), competitive nature of examination process at the board levels and the pressure to find a seat of choice in a desired course/institution. Class X (Secondary stage) students are under stress of board examinations, as it is the first external examination taken by them which determines their performance in other examinations in future, the chance to enter particular streams of study (Science/Humanities/Commerce), and their image and status in the eyes of significant others. If they do not do well they may land up in a stream they do not like, but there is no going back. Class XII students (Senior Secondary) are even under more pressure because of the significance of the board examinations for their future academic opportunities and career. Class X and XII students are also routinely subjected to many examinations (weekly tests, monthly tests, term tests, pre-board tests, coaching institution tests), and the focus is explicitly on memorizing the answers. The parents and teachers perceive the family and school reputation at stake in the examination performance of their wards, thus increasing the pressure further on them. In fact, all of them set performance goals but no attention is paid on setting the learning goals for students. So far as class XII students are concerned, those who opt science stream and plan to appear in competitive examinations for

professional courses put in close to 14-17 hours of a day in examination preparation, and experience frequent negative emotions and depression (Noh, 1984). Many of them experience a sense of despair and helplessness, and at the end completely disillusioned about the relevance of the system of life.

According to Kumar and Singh (2006), student life faces several ups and downs. The peer pressure, demand of the teachers and parents for the good grades, and the competitive environment in the school leads to stressful life for the students. This stressful life leads to depression, anxiety and in severe cases causes suicide and suicidal attempts among students.

Optimism and perceived satisfaction from social support are two protective factors which provide resilience against suicidal ideation. In the present study student stress, optimism, and social support have been taken together so that their direct and interactional effect may be determined.

Chapter-II

Review of Literature

Review of Literature

The present chapter is aimed to present an extensive review of research studies, which are directly or indirectly related to different variables of the study.

Survey of literature is an indispensable part of any research to justify the novelty of the problem. It helps us to understand the problem clearly, formulating the hypotheses, for selecting the appropriate research methodology and for carrying out statistical analyses. Also it helps in discussing and interpreting the findings.

Since present investigation was carried out to study the role of stress, optimism, and social support in suicidal ideation among adolescents, the literature related to this topic was extensively reviewed. The following review of literature is presented in five parts. The first part reviews the literature that investigated mainly the role of stress in adolescents' suicidal ideation. The second part covers the literature on the role of optimism in suicidal ideation. Thirdly, the role of social support (from family, friends, and significant others) in adolescents' suicidal ideation is discussed. Fourthly, studies of suicidal ideation in relation to demographic variables are examined. In the lastly, researches conducted in India are reviewed.

Stress and Suicidal Ideation

Stress is a psychological variable that has been attracting the attention of psychologists for a long time and has been vastly studied in relation to depression, hopelessness, suicidal behavior and suicidal ideation. Studies on stress focus on different sources of stress like negative life events, family discords, academic sources, parental expectations, and so on.

Studies that have been conducted on samples of different age groups—e.g. adults, adolescents and children have demonstrated the relationship between frequency and severity of stressful life events and increased depression and suicidality, e.g. in a sample of children, Cohen-Sandler, Berman, and King (1982) found that suicidal children in comparison to depressed or psychiatric patients experienced significantly greater life stress involving chaotic and disruptive family events or losses or separations from significant others.

With regard to stress, De Man (1988), De Man, Balkou, and Iglesias (1987), Paykel (1971), and Paykel, Myers, Lindenthal, and Tanner (1974) found that suicide attempters tend to have experienced a greater number of recent stressful life events. Jacobs (1971) noted that teenage attempters often have a long history of difficulties that culminates during adolescence.

Negative and potentially traumatic life events are associated with poor mental health outcomes, including thoughts of suicide (Flannery, Singer, & Wester, 2001; Yang & Clum, 1996). Several studies conducted on adolescents have found that suicidal ideation among adolescents is associated with recent stressful life events (e.g., De Man, Leduc, & Labréche-Gauthier, 1993a, 1993b; Dubow, Kausch, Blum, Reed, & Bush, 1989; Garrison et al., 1988; Reynolds, 1988; Smith et al., 1989).

In a crosslagged panel study, using suicide attempters, Clum, Luscomb, and Patsiokas (1991) concluded that high life stress might put individuals at greater risk for future suicide attempts.

Cole et al. (1992) conducted a study on four hundred nine high school students. In their study, high-suicidal- risk subjects were found to have had experienced more life

stress in the previous year, and significantly poorer quality friendships, and lower self-esteem.

Sandin, Chorot, Santed, Valiente, and Joiner (1998) examined the relationship between negative life events and suicidal behaviour. Their study evidenced support for the hypothesis that life events might comprise a risk factor for adolescent suicidal behaviour but their contribution tended to be moderate or weak.

King (1997) suggested that recent stressful events that are interpersonal in nature can increase the risk of suicidal behaviour among adolescents. In particular, Adams, Overholser, and Spirito (1994) found that stressors related to parents and close friends were predictive of suicidal bahaviors in a sample of adolescent suicide attempters.

Huff (1999) in a study on 425 students aged 14 to 18 years, found that recency and degree of stress were significant in the prediction of degree and recency of suicide ideation.

King et al. (2001) in a study on 1,285 9 to 17 year old subjects found an association between suicide ideation or attempt and stressful life events, poor family environment, parental psychiatric history, low parental monitoring, low instrumental and social competence, sexual activity, marijuana use, recent drunkenness, current smoking, and physical fighting.

Beautrais (2000) summarised evidence about risk factors for suicidal behaviour in young people by reviewing of relevant English language articles and other papers published since the mid-1980s. The international literature yielded: social and educational disadvantage; childhood and family adversity; psychopathology; individual and personal vulnerabilities; exposure to stressful life events and circumstances; and

social, cultural and contextual factors as risk factor domains. Suicidal behaviours in young people appeared to be a consequence of adverse life sequences in which multiple risk factors from these domains combined to increase risk of suicidal behaviour.

Wong, Stewart, Ho, Rao, and Lam (2005) in a community sample of Hong Kong youth ages 12–17, formed two groups of interest—suicidal behavior groups and control groups— based on adolescents responses to questions regarding self-injurious behaviors, and also presence of intention to hurt or kill themselves in the past 12 months. Their results indicated that depressive symptoms, stressful life events, suicidal ideation and exposure to suicide attempt (but not completed suicide) contributed unique variance to the presence of suicidal behaviors, after controlling for demographic variables. Depression was a risk factor which moderated the effect of exposure to others suicide on suicidal behavior.

Liu, Tein, Zhao, and Sandler (2005) conducted a study on a sample of 1,362 rural adolescents from 5 high schools in a prefecture of Shandong, China. Overall, they found, 19% of the sample reported having suicidal ideation, and 7% reported having made a suicide attempt during the past 6 months. Apart from other factors life stress was found to be significantly related to both suicidal ideation and suicide attempts.

Mazza and Reynolds (1998) in a longitudinal investigation over a 1-year-period on a sample of 374 high school students, found that daily hassles and negative life events were significant factors related to suicidal ideation levels 1 year later only for males.

Investigators in three studies on American Indian youths reported significant positive relationship between negative life events and suicidal ideation (Howard-Pitney,

LaFromboise, Basil, September, & Johnson, 1992; Manson, Beals, Dick, & Duclos, 1989; Novins, Beals, Roberts, & Manson, 1999).

Yoder, Whitbeck, Hoyt, and LaFromboise (2006) examined the correlates of suicidal ideation among 212 American Indian youth living in United States. They found that negative life events, perceived discrimination, self-esteem, gender, enculturation, and drug use were related to the likelihood of thinking about suicide.

In a recent study, Cerutti, Manca, Presaghi, and Gratz (2011) investigated the rates of deliberate self-harm (DSH) behaviour among an Italian 234 secondary schools adolescent sample (Mean age = 16.47; SD = 1.7), and also explored its clinical correlates. They found that, 42% of the adolescents in this sample engaged in DSH. Results indicated an association between DSH and specific life-stressors— psychological and sexual abuse, natural disasters and serious accidents, the loss of someone important, and the witnessing of family violence or a serious accident.

It is very much clear that life stress is an obvious and overarching proximal risk factor for suicide. A study conducted by Heikkinen, Aro, and Lonnqvist (1994) found that the great majority (80%) of adolescents who attempted suicide had experienced a major life stress in the prior 3 month. These findings have been replicated by research showing increased rates of stressful life events among adolescents and young adults in the 3 month prior to death by suicide, and more specifically in a weak prior to death (Cooper, Appleby, & Amos, 2002). Major life events associated with increased risk for suicidal behaviours often include interpersonal difficulties, conflicts, or losses, and environmental consequences such as disciplinary action or legal problems (Adams et al., 1994; Beautrais, Joyce, & Mulder, 1997; Gould, Fisher, Parides, Flory, & Shaffer, 1996).

In addition to life stress, academic pressure, work related problems, interpersonal difficulties, death of loved ones, illness, and loss of relationship have also been found to be significant stressors of young people (Butler, Novy, Gagan, Gates, 1994; Kurtz & Derevensky, 1993; Mullis, Youngs, Mullis, & Rathge, 1993). Priester and Clum (1993) employed a poor grade in midterm exam as a mild, naturalistic stressor and successfully predicted depression, hopelessness, and suicidal ideation in a college population.

The association between school or academic stressors and suicide ideation among adolelescents has been well documented in several research studies (Ayyash-Abdo, 2002; Lewinsohn, Rohde, & Seeley, 1993; Nelson & Crawford, 1990). In school, adolescents often see themselves as being evaluated in terms of their academic performance and the pressure to excel is an important measure of their success in school. It is, therefore, not surprising that adolescents who attempted suicide often had problem in school. Töero, Nagy, Sawaguchi, Sawaguchi, and Sótonyi (2001) argued that there is a strong link between the pressure to excel in school and suicidal behaviors among children and adolescents. In their study, they showed that the number of suicide cases in a year usually peaked during examination periods where children and adolescents experienced a high level of stress in school.

Some researchers have argued that in East Asian countries especially, this academic stress-suicidal ideation link among adolescents could possibly be even stronger given the familial and cultural demands for academic excellence. Specifically, in an Asian context, academic stress arising from adolescents' self-expectations and expectations of others (e.g., parents and teachers) are particularly salient. Shaheen (2009) in a study conducted in India found parental expectations to be the strongest predictor of

adolescent' psychological distress. Academic achievement is highly valued by Asians because it is perceived as one of the few avenues for upward mobility and expanded options, thus the significance that individuals and families attribute to academic success is intensified (Gloria & Ho, 2003; Sue & Okazaki, 1990). Not meeting one's own expectations and the expectations of significant others is a serious matter which could potentially result in loss of face which in turn lead to loss of confidence and support from one's family. Therefore, children are socialized to be hypersensitive to the judgment of others, especially significant others such as parent or teacher (Yeh & Huang, 1996).

Moreover, academic pressure has often to be a source of stress leading to suicidal behaviors among the adolescents in USA (Shagle & Barber, 1995), Japan (Iga, 1981), Korea (Juon et al., 1994), and Mainland China (Greenberger, Chen, Tally, & Dong, 2000). Likewise, in Singapore, academic difficulties were also found to be one of the predictors of suicidal behaviours among a population of young suicide attempters beside other factors (Ho, Hong, & Heok, 1999). School problems accounted for 11% of adolescents who attempted suicide in Singapore (Ung, 2003).

Though extensive studies indicate high rate of stress associated with adolescent suicidality, other studies indicate the indirect effect of stress with other factors mediating the relationship between stress and suicidal ideation.

With a sample of adolescents from Hong Kong, Stewart, Lam, Betson, and Chung (1999) found that relationships between stressors and suicidal ideation were mediated primarily by depression.

Relations among academic stress, depression, and suicidal ideation were examined by Ang and Huan (2006) in 1,108 Asian adolescents 12-18 years old from a

secondary school in Singapore. The previously significant relationship between academic stress and suicidal ideation was significantly reduced in magnitude when depression was included in the model providing evidence in this sample that adolescent depression was a partial mediator.

Hiramura, Shono, Tanaka, Nagata, and Kitamura (2008) examined the effects of stressful life events, depression, and depressogenic cognitive patterns on suicidal ideation in 500 Japanese undergraduate students. They found that (1) cognitive patterns and depression, but not stressful life events, influenced suicidal ideation and (2) cognitive pattern also influenced suicidal ideation through depression. Their results suggested that the effect of stressful life events on suicidal ideation are indirect and are mediated by depressogenic cognitive styles and depressed mood.

Hintikka et al. (2009) in a follow-up study on general population from Eastern Finland found that at baseline suicidal ideation is associated with a cluster of adverse life events and lifestyles, as well as depression. They also concluded that depressive mood appears to be a necessary precondition for the occurrence of suicidal ideation even after adverse life events.

Konick and Gutirrez (2005) examined several risk factors believed to commonly precipitate suicide ideation in 345 undergraduate college students. Their study indicated depressive symptoms and hopelessness as predictors of suicide ideation in college students. However, negative life events (NLE) impacted suicidal thoughts through hopelessness and depressive symptoms. Some adolescent however do not report precipitants for their suicidal behaviour and the occurance of life events may be related to

young people's poor problem solving skills or psychiatric difficulties (Beautrais et al., 1997).

Schotte and Clum (1982), while examining a model of suicide behaviour in a group of college-aged suicide ideators, indicated that college students suicide ideators experienced higher level of negative life stress, were more hopeless, and had higher level of depression than their non-ideating peers. Poor problem solvers under high stress were found to be significantly higher on suicide intent than any other group.

Terzi-Unsal and Kapci (2005) tested three different suicide models for adolescents residing in a Turkish City, on a total of 605 adolescents from five different high schools. Their findings suggested that adolescent life events, psychosocial variables, social support and self-image predicted self-worth, psychological health and hopelessness which, in turn predicted suicide ideation.

Yang and Clum (2000) while examining the etiology of suicidal behaviour from cognitive and developmental perspective in a sample of 181 suicidal and nonsuicidal college students, found that early life events have a mild impact on suicidal behavior, but a stronger impact on cognitive deficits, which in turn have a strong impact on suicidal behaviour.

Chang (2002) did not find any evidence for a diathesis stress model proposed by Schotte and Clum (1982). However, some support for the view that social problem solving mediate the influence of life stress on suicidal ideation was found.

Ciarrochi, Deane, and Anderson (2002) conducted a cross sectional study on 302 university students that involved measuring of life stress, objective and self-reported emotional intelligence (EI), and mental health. They found that stress was associated

with: (1) greater reported depression, hopelessness, and suicidal ideation among people high in emotional perception (EP) compared to others; and (2) greater suicidal ideation among those low in managing others' emotion (MOE).

In a cross-sectional study, Ciarrochi, Scott, Deane, and Heaven (2003) revealed that all social and emotional competence measures except minimising emotions had significant incremental value over the other measures and over stressful events in predicting depression, anxiety, hopelessness, suicidal ideation, life satisfaction, social support.

Berman and Jobes (1991) suggested that factors like psychotherapy, cognitive coping strategies, social support, interpersonal relationship, etc. may mediate between stress and suicidality. For instance, Rubenstein et al. (1989) found that high school-aged adolescents who reported an attempt to hurt themselves in the previous year had stress score 33% higher than those of nonsuicidal adolescents. Moreover, with life stress and depression as independent risk factors, family cohesion was found to offset the effect of stress, and friendship was found to have more indirect effect.

Several other studies have also demonstrated that certain variables may moderate the association between stress and suicidality. For example the relationship among stress, self-esteem, and suicidal ideation in late adolescents were examined by Wilburn and Smith (2005) in a group of college students. They found that low self-esteem and stressful life events significantly predicted suicidal ideation and the hypothesis that self-esteem would moderate the effects of life stressors on suicidal ideation was supported at the .06 level.

Within a diathesis–stress framework, O'Connor, Rasmussen, and Hawton (2010) conducted a study among adolescent school children (n=515, mean age= 15.2) over a 6 month period (Time 1–Time 2). They found that acute life stress was an independent predictor of depression, anxiety and self-harm. Socially prescribed perfectionism (SPP) predicted depression and interacted with acute life stress to predict self-harm.

Recently, Johnson, Gooding, Wood, and Tarrier (2010) conducted a study in which, 78 participants, who reported experiencing some degree of suicidality were recruited from a student population. They found that positive self-appraisals moderated the association between stressful life events and suicidality. For those reporting moderate or high levels of positive self-appraisals, raised incidence of stressful life events did not lead to increases in suicidality. Their results support the Schematic Appraisals Model of Suicide (SAMS) framework, and suggest that positive self-appraisals may confer resilience to suicide.

Two theoretical models were constructed by Cheng and Chan in 2007 to illustrate how stressful events, family and friends support, depression, substance use, and death attitude mutually influence to create cumulative risks for suicide. Their results showed that within the adolescent's social environment, stressful events increased suicidality through intensifying depression, substance use, and death acceptance, whereas family and friends support lowered it, partly through reducing stress and death acceptance. The effect (direct and indirect combined) of family support was much stronger than that of friends support.

The brooding and reflection forms of rumination were examined by Chan, Miranda, and Surrence (2009). They found brooding as an important mediator of the

concurrent relationship between the impact of negative life events (INE), symptoms of depression, and suicidal ideation on an ethnically diverse sample of college undergraduates (N=1,011). Depression symptoms only partially mediated the relationship between INE and suicidal ideation and between brooding and ideation suggesting that people who brood in response to negative life events may be vulnerable to thinking about suicide, partly due to symptoms of depression, but also as a result of brooding itself.

Chang, Sanna, Hirsch, and Jeglic (2010) conducted a study on a sample of 160 Hispanic adults. They found loneliness and negative life events to be positively associated with both hopelessness and suicidal behaviors. Consistent with a diathesis-stress model, the Loneliness and Negative Life Events interaction significantly accounted for the variance in both suicide risk measures.

A study was conducted by Walsh and Eggert (2007) to conduct an in-depth examination of risk (e.g. drug involvement, emotional distress, stress) and protective (e.g. self-esteem, coping, support) factors associated with suicidal behaviour among 730 high school students (aged 14–21 years) in the Northwest and Southwest regions of the United States. The suicide risk subgroup reported higher levels of all risk factors, except alcohol and marijuana use, and lower levels of protective factors.

Asarnow (1992) indicated that (a) children who attempted or thought of suicide described their families as less cohesive, less expressive, and higher in conflict than did nonsuicidal children; (b) these associations held regardless of whether children met criteria for depressive disorders; and (c) children who thought of or attempted suicide reported higher levels of depressive symptoms than nonsuicidal children.

Pillay and Wassenaar (1997) conducted a study on 40 adolescents (aged 15-20 years) who had engaged in suicidal behaviours which showed that 77.5% of them reported conflict with their parents in the few hours before the event. Significantly more suicidal subjects than controls experienced family conflict, problems with boy / girl friends during the preceding 6 months. The suicidal subjects also expressed significantly lower levels of family satisfaction than the control. The results support the view that suicidal adolescent are dissatisfied with their family functioning and use suicidal behaviour as a means of communicating their distress.

Tang et al. (2009) examined the rate of suicidal attempt and its correlates on a sample of 10,233 adolescent students living in southern Taiwan. They found that 9.1% of the participants reported a suicidal attempt in the preceding year. Female gender, low self-esteem, weekly alcohol use, illicit drugs use, depression, high family conflict, low maternal education level, poor family function, low connectedness to school, low rank, poor feeling in peer group, and drop out from school were associated with adolescent suicidal attempt. The rate of suicidal attempt was found to be high in Taiwanese adolescents, and multidimensional factors were correlated to adolescent suicidal attempt.

Wan and Leung (2010) proposed a conceptual model of youth suicide attempt that began with family factors such as a history of physical abuse and parental divorce/separation. Family relationship, presence of psychopathology, life stressors, and suicide ideation were postulated as mediators, leading to youth suicide attempt.

Liu (2004) assessed the independent and interactive effects of emotional distress and delinquency involvement on suicidal gestures (i.e., ideation and attempt) and gender differences in these interrelationships. The results of the study indicated that, (a)

Experiences of emotional distress predicted subsequent suicidal ideation or attempt; (b) delinquency involvement also predicted suicidal gestures among girls; (c) furthermore adolescent girls who experienced emotional distress but were simultaneously antisocial or delinquent were less suicidal than those who experienced distress but were conforming to social rules. For boys the effects were much weaker and not statistically significant.

Wong, Ang, and Huan (2007), in two hundred and seventy-one adolescents from Singapore, found that emotional distress, negative self-concept, and antisocial behavior significantly predicted suicidal ideation for the whole sample. For females, only emotional distress significantly predicted suicidal ideation. For males, only negative self-concept significantly predicted suicidal ideation.

Taylor, Grande, Gill, Fisher, and Goldney (2007) collected data from a representative random sample of South Australian by using computer assisted telephone interviewing (CATI). They found in total, 4.7 % of South Australian, aged 16 years and over, were determined to have suicidal ideation. There was no change in the trend over the years when surveys between 1997 and 2005 were compared. A wide range of variables were significant with suicidal ideation at the univariate level. In the final multivariate model, marital status, money situation, psychosocial stress (K10), physical activity, fruit consumption, health service use and mental health service use proved to be best joint predictors of suicidal ideation.

In a very recent study conducted on a cross-national sample of adolescents (N=25,568) representing 7 African countries, Page and West (2011) found an association between psychosocial distress, health-risk behaviors and 12-month suicidal ideation among sub-Saharan African adolescents.

Heisel, Flett, and Hewitt (2003) examined the relationship between suicide ideation and various predictive psychological factors, on a sample of 143 college students, in order to improve upon existing models of student suicidality. Their results demonstrated that suicide ideation was associated significantly with daily stress, depression, general hopelessness, and social hopelessness. However, they found that depression and social hopelessness were the only factors that discriminated between the high and low suicide ideation groups.

Izadinia, Amiri, Jahromi, and Hamidi (2010) in a study on 265 students of Tehran University concluded that, suicidal ideations had a significant and negative relationship with resiliency. Anxiety, depression, mental health and daily stresses had a positive relationship with suicidal ideations.

Recently, in another study, Hankin and Abela (2011) studied the rates, course, and longitudinal prediction of non-suicidal self-injury (NSSI) from early through middle adolescence with a community sample of 103 youth (ages 11–14) who were assessed for NSSI at baseline and 2 ½years later. They found that 18% of youth engaged in NSSI over the 2½-year follow-up; 14% for the first time. Distal risks (assessed at baseline) that differentiated youth who engaged in NSSI from those who did not, included negative cognitive style and mothers' prior depression. Proximal factors (assessed 2 years after baseline) that differentiated NSSI from non-NSSI youth included stressors, depressive symptoms, poor relationship quality, excessive reassurance seeking, and mothers' onset of depression. Several of these factors predicted new engagement of NSSI over 2½years.

Peltzer, Kleintjes, Wyk, Thompson, and Mashego (2008) assessed correlates of suicide risk in a South African school-based population (N = 1,157) from three secondary

schools in Cape Town. Their results indicated anger control problems, low self-esteem, perceived stress, and unmet school goals as predictors for suicide risk.

Zayas, Gulbas, Fedoravicius, and Cabassa (2010) conducted thematic analyses of twenty-seven qualitative interviews (collected, between July 2005 and July 2009) with teenage Latinas (aged 11-19) living in New York City who had attempted suicide. Their results show that the pathways to the suicidal event consisted of a pattern of continuous, escalating stress (primarily at home) that created the emotionally combustible conditions for the attempt.

Optimism and Suicidal Ideation

Dispositional optimism is a trait like characteristic reflecting a positive attitude or mood regarding the future. It is a positive factor that may have a protective or buffering effect against stressors or psychopathology. Seligman et al. (1999) found that boosting optimism helped to prevent depressive symptoms and others have found that positive variables such as hope and optimism are related to decreased feelings of loneliness (Şahin, Batigün, & Şahin, 1998), increased levels of general well-being (Magaletta & Oliver, 1999) and happiness (Staats, 1987), and better health and recovering from injury and illness (Elliot, Witty, Herrick, & Hoffman, 1991; Irving, Snyder, & Crowson, 1998).

Because pessimism (or low optimism) is often related to an array of negative outcomes, it makes sense that it is also related to suicidality. Roberts, Roberts, and Chen (1998) found a positive relationship between suicidal thinking and dispositional pessimism. They examined the risk of suicidal plans and ideation, depression and other factors (low self-esteem, loneliness, fatalism, pessimism) among adolescents with a life-time history of attempted suicide. Their results revealed that suicidal thinking was related

to being more lonely, more fatalistic, and more pessimistic, and to less self-esteem, in addition to depression and a history of attempts.

Sumer, Giannotta, Settanni, and Ciairano (2009) examined the mediating role of parental support on the relation between optimism and depression in a community sample consisting of 149 middle school students aged 12 to 13 and living in an urban area in Northern Italy. They found a partially mediating effect of parental support between optimism and depression. That is, adolescents who perceived higher dispositional optimism were also less depressed. However, the negative effect of lack of optimism was mediated by parental support, which in turn negatively affected depression.

On the basis of review of studies on optimism Carver, Scheier, and Segerstrom (2010) indicated that higher levels of optimism have been related prospectively to better subjective well-being in times of adversity or difficulty (i.e., controlling for previous well-being), and linked to higher levels of engagement coping and lower levels of avoidance, or disengagement coping. It is associated with taking proactive steps to protect one's health, whereas pessimism is associated with health-damaging behaviors.

Although much research has been conducted on the role of hopelessness and depression in suicidal ideation, the role of dispositional optimism is unclear.

Optimism has also been tested as a moderator influencing the relationship between perceived stress and depression (Kleinman, 2000), well-being (Chang, 1998), and psychological distress (Hewlett, 1998). It typically exerts a beneficial effect.

Hirsch and his associates have conducted a series of studies to find out the role of optimism in suicidal ideation. In one of the studies on college students, Hirsch and Conner (2006) found that optimism moderates the relationship between hopelessness and

suicidal ideation. Hopelessness is not inevitably associated with suicidal ideation. Optimism may be an important moderator of the association.

Similarly, in another study Hirsch, Conner, and Duberstein (2007) found that optimism was inversely associated with suicide ideation even after controlling for age, gender, depressive symptoms, and hopelessness.

In another study, Hirsch, Wolford, LaLonde, Brunk, and Morris (2007) found that negative life events were associated with current suicide ideation and previous suicide attempts, and dispositional optimism moderated these relationships, after controlling for hopelessness and severity of depression. However, this association was changed at the highest level of negative life events.

Individuals with a tendency to view the world in a future-oriented manner may think about negative and potentially traumatic life circumstances more favorably and may be less likely to think about or attempt suicide (Hirsch et al., 2007a). Individuals who are hopeless or experiencing functional impairment, who also have an optimistic or future oriented perspective, are less likely to experience suicidal ideation and have fewer suicide attempts (Hirsch & Conner, 2006; Hirsch et al., 2007b).

Hirsch, Wolford, LaLonde, Brunk, and Parker-Morris (2009) also examined the moderating effect of explanatory style on the relationship between negative life experiences and suicide ideation in a college student sample. Their results indicated that optimistic explanatory style mitigates the influence of negative and potentially traumatic life events on thoughts of suicide, above and beyond the effects of hopelessness and depression. Optimistic explanatory style was associated with reduced suicide ideation, whereas pessimistic explanatory style was associated with increased thoughts of suicide.

Priester and Clum (1992) examined attributional style as a diathesis for negative outcomes in 269 college students and found that explanatory style was predictive of hopelessness, depression and suicidal ideation with optimistic explanatory style resulting in lower levels of depression, hopelessness and suicidal ideation and pessimistic explanatory style resulting in higher levels.

Spann (2006) found that internal locus of control was the greatest protective factor against suicidal behaviors whereas external locus of control led to greater risk for suicide attempts.

Lynch et al. (1999) reported that greater pessimistic thinking at baseline predicted the development of suicidal ideation one year later.

O'Connor, Fraser, Whyte, MacHale, and Masterton (2008) compared the power of positive future expectancies and global hopelessness in the prediction of suicidal ideation. They confirmed that specific positive future expectancies were better predictors of Time 2 suicidal ideation than global hopelessness. In addition, negative future thinking was not independently associated with suicidal ideation.

In a cross cultural study conducted on US sample and Ghanaian college students, Eshun (1999) found that Ghanaian students reported fewer feelings of hopelessness and were significantly more optimistic. While, the US sample endorsed significantly more items of the suicidal ideation scale than their Ghanaian counterparts.

In another cross cultural study of Kuwaitis (mean age 21.9 yrs.) and Americans (mean age 23.2 yrs.) conducted by Adel-Khalek and Lester (2002) on suicidal ideation revealed that pessimism was one of the several predictors of suicidal ideation for both Kuwaiti and American students.

Blankstein, Lumley, and Crawford (2007) examined variables (daily hassles, self-esteem, dispositional optimism, coping modes, and perceived social support) that could potentially moderate associations between dimensions of perfectionism and current feelings of hopelessness and suicide ideation in university students. One of the several significant findings was that optimism and social hassles were unique predictors but the results varied as a function of gender and outcome.

Eckersley and Dear (2002) examined associations between youth suicide rates in 11–21 mainly Western, developed nations and 32 socio-economic and cultural variables. A strong positive correlation was found between male youth suicide rates and subjective measures of health, optimism, and several indices of individualism, including personal freedom and control.

O'Connor, Rasmussen, Miles, and Hawton (2009) conducted a study on a total of 2008 pupils aged 15–16 years in Scotland. Apart from other factors low level of optimism was associated with self-harm in girls who were 3.4 times more likely to report self-harm than boys.

Social Support and Suicidal Ideation

Social support is a key variable which plays a significant role in the experience of stressful life situations. The presence of strong, positive social relationship reduces the experience of stress, improves health, and buffers the impact of stress on health. Positive social support has a significant impact on physical and psychosocial wellbeing of adolescents and has proved to be an extremely important factor in adolescent as well as adult suicidality. Studies with both adults and adolescents generally indicate that suicidal individuals are lacking supportive relationship with others (e.g., D'Attilio, Campbell,

Lubold, Jacobson, & Richard, 1992; Howard-Pitney et al., 1992; Rudd, 1990; Slater & Depue, 1981). Among high-risk adolescents in school, suicidal youth were found to have lower perceived social support from families, teachers, or friends than their nonsuicidal peers (Esposito & Clum, 2003).

Social support frequently acts as a buffer against stress for adolescents (e.g. Wills & Cleary, 1996). Such support may be particularly critical for suicidal adolescents, who often have experienced more traumatic events and life stress (De Wilde, Kienhorst, Diekstra, & Wolters, 1992). At the same time, however, suicidal adolescents tend to perceive their families as less engaged, affectionate, and confiding than either non-clinical adolescent or non-suicidal, depressed adolescents (King, Segal, Naylor, & Evans, 1993).

Social support might mediate the relationship between life dissatisfaction and suicide (Valois, Zullig, Huebner, & Drane, 2004). Others have also suggested that social support acts as a mediator in predicting suicidal ideation. Social support in college students appears to act as a buffer in the relationship between stressor and suicidal ideation, thereby reducing risk following a stressor for students with support (Clum & Febbraro, 1994). Previous research suggests that low support is associated with greater severity of adolescents' depressive symptoms and suicidal ideation (e.g. Barrera & Garrison–Jones, 1992; Mazza & Reynolds, 1998).

Clum et al. (1997) compared high and low suicide-ideating depressed adolescents on a variety of measures and found that low social support was an independent predictor of suicidal behavior.

Rudd (1990) also found a negative correlation between suicidal ideation and perceived support from friends and from family. They also found evidence for an interactional effect of perceived social support with negative life stress in predicting suicidal ideation.

Two studies designed by Jeglic, Pepper, Vanderhoff, and Ryabchenko (2007) to develop and validate a model of current suicidal ideation supported a mediating model where in borderline personality characteristics mediated by social support predicted current suicidal ideation.

Robins and Fiske in 2009 found involvement in public, religious practices to be associated with lower levels of both suicidal ideation and history of suicide attempts and that social support mediated these relations.

Esposito and Clum (2003), while examining the relative importance of diagnostic and psychosocial factors in the prediction of adolescent suicidal ideation suggested that the adolescents presenting with psychiatric disorders, high levels of stress, and poor social support networks should be monitored for suicidality.

Paulson and Everall (2001) while investigating processes related to adolescents becoming suicidal and overcoming suicide found major negative life events, many daily stresses and few or no social support as risk factors and increased social support as one of the few factors that helped overcoming suicide tendencies.

The results of the study conducted by De Man et al. (1993a) indicated that suicidal ideation was negatively related to satisfaction with social support.

D'Attilio et al. (1992) in a study found that the greatest proportion of the variance in suicide risk was attributed to the quality of the perceived social support.

Merchant, Kramer, Joe, Venkataraman, and King (2009) while studying psychopathology, social support, and interpersonal orientation in relation to suicide attempt status in acutely suicidal, psychiatrically hospitalized Black adolescents and a matched sample of White adolescents, found that multiple attempters were differentiated by lower perceived support.

Esposito and Clum (2002) in a study on 200 adolescents (aged 12-17 yrs. juvenile delinquents) found that social support moderated the relationship between childhood abuse and suicidal ideation.

Sun, Hui, and Watkins (2006) tested a model of suicidal ideation with family cohesion, expressiveness, conflicts, teacher support, teacher-student relationships and peer support as antecedents, and self-esteem and depression as mediators, on 433 Hong Kong Chinese adolescents. The results showed that only family cohesion, conflicts, teacher support, and peer support significantly predicted self-esteem and depression, with depression being a strong mediator of suicidal ideation.

Hovey (1999) examined social support as a moderator in the relationship between depression and suicidal ideation in a sample of 104 immigrant Maxican-American adults (mean age 32.1 yrs.). Effective social support and high depression were significantly associated with elevated suicidal ideation. Further analyses indicated a significant interaction between social support and depression in predicting suicidal ideation, thereby suggesting that social support may serve as a protective factor against suicidal ideation during the acculturative process.

Using a broad suicide risk assessment (suicidal ideation, hopelessness, hostility), Rutter and Soucar (2002), in a study conducted on 100 youth aged 17 to 19 yrs., found

that youth who reported external support demonstrated lower overall suicide risk and, specifically, lower levels of hostility , hopelessness, and suicidal ideation.

In a national random sample of 1591 adolescents from the US National Comorbidity Survey, Bertera (2007) found that negative exchanges with family were associated with increased suicide ideation scores in younger (15–17) but not in older (18–19) adolescents. Positive support provided as significant buffering effect that was age specific and independent of gender, income or mood disorders.

Palmer (2001) while examining the predictiveness of perceived social support and serum cholesterol level found perceived social support as a better predictor of suicide risk for depressed African Americans.

In face-to-face interviews conducted with 1,249 first-year college students, Arria et al. (2009) found depressive symptoms, low social support, affective dysregulation, and father-child conflict to be independently associated with suicide ideation. Only 40% of individuals with suicide ideation were classified as depressed according to standard criteria. In low depression group low social support and affective dysregulation were important predictors of suicide ideation.

De Wilde, Kienhorst, Diekstra, and Wolters (1994) found high risk suicidal ideation group reporting less support and understanding from siblings and relations outside the family.

Social alienation was found to significantly account for suicidal ideation in a sample of college students. No interaction effect between stress and social alienation in predicting suicidal ideation was found to support the often cited buffering role of social support (Bonner & Rich, 1988).

that youth who reported external support demonstrated lower overall suicide risk and, specifically, lower levels of hostility , hopelessness, and suicidal ideation.

In a national random sample of 1591 adolescents from the US National Comorbidity Survey, Bertera (2007) found that negative exchanges with family were associated with increased suicide ideation scores in younger (15–17) but not in older (18–19) adolescents. Positive support provided as significant buffering effect that was age specific and independent of gender, income or mood disorders.

Palmer (2001) while examining the predictiveness of perceived social support and serum cholesterol level found perceived social support as a better predictor of suicide risk for depressed African Americans.

In face-to-face interviews conducted with 1,249 first-year college students, Arria et al. (2009) found depressive symptoms, low social support, affective dysregulation, and father-child conflict to be independently associated with suicide ideation. Only 40% of individuals with suicide ideation were classified as depressed according to standard criteria. In low depression group low social support and affective dysregulation were important predictors of suicide ideation.

De Wilde, Kienhorst, Diekstra, and Wolters (1994) found high risk suicidal ideation group reporting less support and understanding from siblings and relations outside the family.

Social alienation was found to significantly account for suicidal ideation in a sample of college students. No interaction effect between stress and social alienation in predicting suicidal ideation was found to support the often cited buffering role of social support (Bonner & Rich, 1988).

Indeed, suicidal ideation in adolescents has been found to be associated with a feeling that there is no one to help them (Bagley, 1975) and lack of sufficient parental support (De Man, Labreche-Gauthier, & Leduc, 1993) suggesting that suicide is not so much the outcome of pressure, but of pressure without support.

Several studies have pointed out the need to strengthen the protective functions of family, peers and school simultaneously (for example to enhance good family relationship, feeling close to parents, feeling liked by friends and feeling connected to school), in order to prevent adolescent suicide (Anteghini et al., 2001; Resnick et al., 1997; Zweig et al., 2002).

In a study of 247 adolescents on perceptions of family support and challenge, and quality of subjective experience of interest of two years, Rathunde (2000) noted that the perception of increased family support was linked to positive changes in adolescents' moods. Specifically parental support was found to be an effective protective factor against the negative effects of developmental stress on adolescent depression (Petersen, Sarigiani, & Kennedy, 1991) and suicidal ideation (Rudd, 1990). Studies suggested that inadequate family support is most deleterious to adolescent functioning. For example, the negative appraisals that outpatient adolescents make about unsupportive family environment appeared to be more strongly related to depression than their subjective evaluations of other relationships (Cumsille & Epstein, 1994).

Research also has consistently demonstrated associations between unsupportive family environments and suicidal behavior in adolescent. For example, suicidal adolescent inpatients perceived lower levels of family support than non-suicidal inpatients or non-patient controls (King et al., 1993) and poor family support predicted

adolescents' suicidal behavior and ideation in the six months following psychiatric hospitalization (King et al., 1995).

Morano, Cisler, and Lemerond (1993) also found loss and low family support as the best predictors of an adolescent's suicide attempt. Bjarnason (1994) brought them together in a single causal model of suicidal behaviour involving integration, suggestion and psychological distress on the whole population of Icelandic youth and found suicidal behaviour to be most strongly affected by mental support by family and by suicide suggestion, with depression as an intervening variable.

Eskin (1995) conducted a study on 652 Swedish and 654 Turkish adolescents, and found low perceived social support as one of the predictors of current suicidal risk for both the groups. Perceived family support was found to be a more powerful protective factor against adolescent suicidality than friends support. Similar findings were obtained earlier by Marks and Haller (1977), Rubenstein et al. (1989), and Rudd (1990).

Two theoretical models were constructed and tested in a study by Cheng and Chan (2007); they found that family and friends support lowered the effect of stressful events on suicidality partly through reducing stress and death acceptance. The effect (direct and indirect combined) of family support was much stronger than that of friends support.

Harris and Molock (2000), in a study on 188 African American college students, found that higher levels of family cohesion and family support were associated with lower levels of suicide ideation and depression. Having strong family support was associated with fewer experiences of suicide ideation and depression.

Morion and Range (2003) identified family support, a view that suicide is unacceptable, and a collaborative religious problem-solving style as important protective factors of suicidal ideation/thinking.

Thompson, Mazza, Herting, Randell, and Eggert (2005), while testing a model of suicidal ideation, found that lack of family support showed indirect influences on suicidal behaviors through anxiety for both males and females.

Randell, Wang, Herting, and Eggert (2006) compared family related risk and protective factors among potential high school dropouts with and without suicide-risk behaviors (SRB). Their results showed that increased levels of suicide risk were associated with perceived conflict with parents, unmet family goals, and family depression; whereas decreased levels of risk were associated with perceived parental involvement and family support for school.

The importance of school and family as support networks for young people was reinforced by the findings of a web-based survey conducted by Carter, McGee, Taylor, and Williams (2007). They found that connectedness to family was associated primarily with fewer reports of suicidal ideation and increased reports of physical activity. Connectedness to friends was associated with increased reports of health compromising behaviours.

Sharaf, Thompson, and Walsh (2009) examined the moderating effect of family support on the relationship between self-esteem and suicide risk behaviors among potential high school dropouts (N = 849). They found family support moderated the impact of self-esteem on suicide risk; the ameliorating effect of self-esteem was stronger among adolescents with high family support.

Child rearing characterized by control and a lack of sufficient maternal and parental support was found to be related to suicidal ideation among French-Canadian adolescent boys and girls (De Man et al., 1993).

In a similar study Wong, De Man, and Leung (2002) also found perceived maternal and paternal warmth and control in child rearing, to be associated with suicidal ideation. Chinese adolescents who experienced their mothers as less warm and affectionate tended to suffer from greater suicidal ideation, with girls generally reporting higher levels of ideation than boys.

Similar findings were obtained in a study on 120 Hong Kong adolescents (aged 15-19 yrs.). Lai and McBride-Chang (2001) found that suicidal ideation was significantly associated with perceived authoritarian parenting, low parental warmth, high maternal over control, negative child rearing practices, and a negative family climate. It was noted that a positive family climate might act as a buffer against developing suicide ideation in adolescents.

Harter et al. (1992) examined a theoretically based model of psychosocial risk factors and mediators leading to suicidal ideation in a normative sample of young adolescents. They found that hopelessness regarding peer support related to issues of self-worth in depression, while hopelessness about parental support related directly to depression and suicide ideation.

Measure of multiple sources of social support were used by Cho and Haslam (2010) to predict psychological distress and suicidal ideation among Korean born high school students residing in the US. Their findings implied that parental support is particularly protective for suicide among immigrant adolescents.

In the family system the notion of cohesion refers to care, warmth, protection and support (Cox, 1999). Several empirical studies found that cohesion was a significant factor that offset stress, and protected adolescents from developing depression (Feldman, Rubenstein, & Rubin, 1988; Rubenstein et al., 1989).

In a controlled study, Miller, King, Shain, and Naylor (1992) compared 15 suicidal adolescents, 14 age-matched psychiatric controls and 14 age-matched normal controls on family cohesiveness, adaptability, parent adolescent communication, parental caring and over protectiveness. Suicidal samples rated their families as the least cohesive and most rigid among the 3 groups, suggesting that suicidal behavior might occur when isolation was experienced within an inflexible family system. Besides, Kurtz and Derevensky (1993) in their conceptual framework of stress and coping found that parental conflict and divorce increased psychological vulnerability during adolescence. Suicidal behavior was suggested to be a concomitant of prolonged and progressive family disruption, inadequate family relationships, and ineffective parent-child interaction.

Madu and Matla (2004) conducted a study on 435 secondary school adolescents from the Pietersburg area in the Limpopo Province (South Africa) of whom 56% were female, and 44% were male, aged between 15 -19 years. They found that conflict in a family was a significant correlate for three forms of suicidal behaviors studied.

Findings of the studies conducted by Lee, Wong, Chow, and McBride-Chang (2006) underscored the importance of both academic and family climate in understanding depression and suicide ideation among Chinese adolescents. They found low levels of family cohesion and support and high levels of parent–adolescent conflict to be positively related to depression and suicide ideation in both genders.

In a sample of 226 Turkish university students Gençöz and Or (2006) found that family cohesion emerged as a significant associate of the suicide probability even after controlling for demographic and mood related variables.

Park, Kim, Cheung, and Kim (2010), among 166 Korean American adolescents ranging from 11 to 15 years old, showed that depressive symptoms were significantly associated with lower levels of perceived family cohesion, higher levels of perceived family conflict intensity, and higher levels of anger suppression.

Both younger and older suicidal patients were compared by Richman (1999) for age differences, age similarities, and the relationships between generations. Examples were presented of the precipitants and family determinants that were most frequently associated with suicidal behavior, with a discussion of their theoretical and clinical implications. The precipitants were based upon developmental tasks and crises which differ with age, while the family determinants were similar at all ages. Families also played a major role in the origin, outcome, and healing of a suicidal state.

Borowsky, Ireland, and Resnick (2001) used data from the National Longitudinal Study of Adolescent Health, conducted in 1995 and 1996, to identify risk and protective factors for suicide attempts among black, Hispanic, and white male and female adolescents. They found perceived parent and family connectedness was protective against suicide attempts for all the groups and for both girls and boys.

Cheng et al. (2009) found parent's potential involvement with children at both academic and personal level as protective factor against suicidal ideation and attempted suicide.

Many studies conducted in North America (Huff, 1999), England (Hollis, 1996), European countries (Tomori, Kienhorst, De Wilde, & van den Bout, 2001) and Asian countries (Ho et al., 1999) have shown that parent-child conflict was one of the main stresses contributing to suicidal ideation and attempt.

In a study on Hong Kong youth aged 15-24, Yip et al. (2004) found unhappy family life associated with increasing levels of suicidality.

Kim and Cain (2008) examined the association between Korean American parent–adolescent relationships and adolescents' depressive symptoms in 56 families. In their study thirty-nine percent of adolescents reported elevated depressive symptoms. Adolescents' perceived low maternal warmth and higher intergenerational acculturation conflicts with fathers were significant predictors for adolescent depressive symptoms.

Dubow et al. (1989) found marital discord and use of physical discipline by parents to be significant associates of non-fatal suicidal behaviors (NFSB). Kienhorst, De Wilde, Van Den Bout, Diekstra, and Wolsters (1990), in their cross sectional survey of 9393 Dutch adolescents, had found poor perceived relationship with the parents to be a significant risk factor.

Carris, Sheeber, and Howe (1998), in a study, confirmed the hypothesis that family rigidity has an indirect effect on adolescent suicidal ideation through its effect on adolescent problem-solving deficits.

Kidd et al. (2006) conducted a study on an ecological developmental model of adolescent suicidality by reanalyzing data from the National Longitudinal Study of Adolescent Health. It was found that parent relations was the most consistent protective factor.

Laukkanen et al. (2009), in a sample of Finnish adolescents aged 13–18 years, found that self-cutting was associated with female gender and a very wide range of adverse psychosocial background variables and that parents living together was an independent protective factor.

In a recent study conducted by Toprak, Cetin, Guven, Can, and Demircan (2011) on 636 students from two Turkish state universities, to define correlates for and prevalence of self-harm, suicidal ideation, and suicide attempts, the results showed that the lifetime prevalence of self-harm was 15.4%, the prevalence of suicidal ideation was 11.4%, and the prevalence of suicide attempts was 7.1%. They uncovered correlates for self-harm, including low income, unsatisfying familial relationships, smoking, and alcohol, inhalant, and tranquilizer abuse.

In a recent study based on the responses of 5,557 Chinese secondary students in Hong Kong, Kwok and Shek (2011) showed that suicidal ideation was negatively related to global family functioning and parent-adolescent communication. They also indicated that the dyadic and systemic factors had similar importance in predicting suicidal ideation.

Beside parents, friends were also considered as potential resources because of the fact that adolescents tend to seek peer support when they have trouble or suicidal thoughts (Bee-Gates, Howard-Pitney, Lafromboise, & Rowe, 1996; Brent et al., 1988; Coggan, Patterson, & Fill, 1997; Marttunen, Aro, & Lonnqvist, 1992). Peer support was found to be one of the protective factors significantly moderating the negative effect of family stress on adolescents' depression and anxiety (Feldman et al., 1988; Ohannessian, Lerner, Lerner, & von Eye, 1994). In contrast, failure to obtain both family and peer

support was found to contribute to feeling of worthlessness, hopelessness, depressive symptoms, and subsequent suicidal ideation (Harter et al., 1992). Thus, Rice, Herman, and Petersen (1993) stated that family and peers were effective buffering systems for adolescents in stressful situations. The stress-buffering function of these social resources was supported in a study (Herman-Stahl, Stemmler, & Petersen, 1996) which found that people who reported having few depressive symptoms under high stress had better family and peer relationships, used approach coping strategies and possessed dispositional optimism than people who reported having many depressive symptoms under high stress.

Whether support from peers supplements, interacts with or overlaps with other sources of support, depend on the population being studied. In community samples, research suggest, friendships may compensate for effect of weak family support on adolescents' adjustment (Gauze, Bukowski, Aquan-Assee, & Sippola, 1996). Notably, Slavin and Rainer (1990) found that higher peer support predicted fewer symptoms of depression after six months in a community sample of female adolescents, even after controlling for family and nonfamily adult support. However, Cumsille and Epstein (1994) suggested that in more impaired populations, peer support may not be able to make up for low family support. In their study of outpatient adolescents, these authors found that peer support was not related to depression after family support was controlled; greater peer support was related to less depression only when support from the family environment was relatively high.

Huang, Sousa, Tu, and Hwang (2005) conducted a study on four hundred four Taiwanese female adolescents. Their findings suggested that poor peer relationships was one of the significant stressors that contributed to the development of depressive

symptoms. Cognitive–behavioural interventions that could improve adolescents' relationships with their peers, enhance their satisfaction of grades and moderate or prevent depressive symptoms would decrease the prevalence of adolescent suicide (Huang & Guo, 2009).

According to Lester (1992), suicidal behaviour typically takes place in an interpersonal context. Clinical studies and case reports of suicidal cases suggested that impaired social skills and poor peer relationships could lead to suicide attempts in adolescents. Stanley and Barter (1970) in a study of adolescents who were admitted for suicide attempts found that those who made a postdischarge suicide attempt had less adequate peer relations than those, who did not make postdischarge attempt.

Reynolds and Heald (1977, as cited in Londy, 1995) reported that 50% of a sample of 65 adolescent suicide attempters seen in an emergency room described themselves as "loners" or being socially isolated before their suicide attempt. This finding was especially true for male attempters. In another study psychiatrically hospitalised adolescent suicide attempters had reported more frequent and serious peer problems than either nonsuicidal psychiatric patients or nonhospitalised controls (Topol & Reznikoff, 1982).

Veiel, Brill, Hafner, and Welz (1988) conducted a study on a sample of 101 adolescent suicide attempters and 32 normal controls. They found significant differences in the size of their social networks, the number of friends with whom they experienced emotionally satisfying daily contacts and the number of relatives who provided both psychological and instrumental crisis support.

Winterrowd, Canetto, and Chavez (2010) examined suicidality and friendship problems (i.e., social isolation, poor friendship quality, friends' school disconnection, and friends' delinquency) among Mexican American adolescents, an understudied, vulnerable group in terms of suicidality. They found that suicidal ideation and behavior rates were high, particularly among girls and that friends' school disconnectedness increased girls' odds for suicidal ideation by 13 %. This association was even greater for girls in good academic standing. Friendship problems were not associated with suicidality in boys. However friendship factors were no longer associated with suicidality after controlling for suicidality correlates such as depression (Winterrowd, Canetto, & Chavez, 2011).

Hacker, Suglia, Fried, Rappaport, and Cabral (2006) on the basis of a school-based survey of ninth and eleventh graders found that having friends was protective against suicidal ideation for both IX and XI graders.

Prinstein, Boergers, Spirito, Little, and Grapentine (2000) while examining suicidal ideation severity among 96 psychiatric inpatients (32 boys, 64 girls), ages 12 to 17, supported a model in which greater levels of perceived peer rejection and lower levels of close friendship support were associated directly with more severe suicidal ideation. In addition, indirect pathways included deviant peer affiliation and global family dysfunction related to suicidal ideation via substance use and depression symptoms.

As peer victimization and bullying may be indicative of difficult and/or poor peer relationships and lack of adequate peer support, it seems reasonable to review the studies relating peer victimization and bullying to suicidal ideation and attempt. Several research evidence support the hypothesis that peer victimization is related to poor mental health

(Rigby, Slee, & Martin, 2007) and is a major risk factor for suicidal ideation and attempt but this effect is moderated by gender.

Verkuyten and Thijs (2002) found adolescents with suicidal ideation to be likely to report having peer victimisation.

Klomek, Marrocco, Kleinman, Schonfeld, and Gould (2008) on a sample of 2,342 high-school students found that all types of peer victimization was related to high risk of depression, ideation, and attempts compared to students not victimized. Infrequent victimization was also related to increased risk, particularly among females. The more the types of victimization the higher the risk for depression and suicidality among both genders. Specific types of peer victimization are a potential risk factor for adolescent depression and suicidality.

Recently, Cui, Cheng, Xu, Chen, and Wang (2011) conducted a study on 8778 Chinese adolescents from a large survey. Their results suggested that specific problems in peer relationships, such as lack of peer association and being victimized by bullying, were significantly related to suicide ideation and attempts. In addition, the moderating effects of feeling of loneliness on the association between peer relationships and suicide ideation and attempts were found. Finally, some gender effects were also found.

Similarly, Jutengren, Kerr, and Stattin (2011) in a study on 880 junior high school students (mean age = 13.72) in Sweden, found that peer victimization was predictive of self-harm. Although harsh parenting was not predictive of self-harm, this link was moderated by adolescents' gender.

Rigby and Slee (1999) in a study of adolescents (aged 12-18 yrs.) found bullying at school with low social support to be significantly related to suicidal ideation.

Rudatsikira, Muula, and Sizia (2007) found that subjects who reported having been bullied were more than twice as likely to contemplate committing suicide as those who had not been bullied. History of depression was positively associated with suicidal ideation, while having close friends and understanding parents were negatively associated with suicide ideation.

Kaltiala-Heino, Rimpelä, Marttunen, Rimpelä, and Rantanen (1999) conducted a study on 16 410 adolescents aged 14-16 from Secondary schools in two regions of Finland. They found that depression was equally likely to occur among those who were bullied and those who were bullies. It was most common among those students who were both bullied by others and who were also bullies themselves. When symptoms of depression were controlled for, suicidal ideation occurred most often among adolescents who were bullies.

A cross-sectional sample of 1,032 was used by Peter, Roberts, and Buzdugan (2008) among Canadian youth by using data from the National Longitudinal Study of Children and Youth–Cycle 5 (2003). They found significant correlations between suicide ideation and some lesser examined socially based measures. In particular, ability to communicate feelings, negative attachment to parents/guardians, taunting/bullying or abuse, and presence of deviant peers were significant predictors of suicidal ideation. As expected, depression/anxiety, gender, and age were also correlated with thoughts of suicide.

Cheng et al. (2010) among a nationally representative sample of 9015 Chinese students in middle schools in Beijing, Hangzhou, Wuhan, and Urumqi, found that students who had been involved in a physical fight, often felt lonely, or had considered

suicide in the past 30 days were more likely to report being bullied. Students who thought that other students in their school were often kind and helpful, felt parents often understood their troubles, or who were taught in school how to handle stress were less likely to report being bullied.

Some studies found that those who are both bullies and bully victims have more suicidal ideation. In a cross-sectional study in which 1718 seventh and eighth-grade students from 2 Korean middle schools participated, Kim, Koh, and Leventhal (2005) found that compared with the students who were not involved with school bullying, victim-perpetrators reported more suicidal/self-injurious behaviors and suicidal ideation in the previous 6 months. In female students, all 3 school bullying groups had increased suicidal ideation for the previous 2 weeks but not in male students.

Liang, Flisher, and Lombard (2007) in a sample of 5074 schoolchildren in grade 8 (mean age 14.2 years) and grade 11 (mean age 17.4 years) at 72 Government schools in Cape Town and Durban, South Africa, found bully-victims (those that are both bullied and bully others) showed largely comparable violent, anti-social and risk taking behavior profiles to bullies. Bully-victims showed comparable suicidal ideation and smoking profiles to victims.

Herba et al. (2008) in a study of Dutch children (n = 1526, mean age = 12.29 years), however, did not find bully-victims (children who are victims and who also bully others) to be reporting higher levels of suicide ideation compared to children uninvolved in bullying.

While other sludies indicate that bully victims and not the perpetrators were having suicidal ideation (Rudatsikira et al., 2007). Similarly in a general community

sample of 2,095 youth (aged 15-24 years) in a metropolitan Japanese city, Hidaka et al. (2008) found that for males and females, attempted suicide was independently associated with experience of school bullying.

Pranjic' and Bajraktarevic (2010) found that adolescents who were victims and those who were bully victims were more likely to have suicide ideation compared to uninvolved subjects. Discontent with financial situation is a vulnerability factor associated with elevated levels of depression in victims.

Skapinakis et al. (2011) conducted a study in which 5614 pupils 16-18 years old and attending 25 senior high schools were screened in the first phase and a stratified random sample of 2431 were selected for a detailed interview at the second phase. They found victims of bullying behavior were more likely to express suicidal ideation. In contrast, being a perpetrator ("bullying others") was not associated with this type of ideation.

Park, Schepp, Jang, and Koo (2006) identified the most important predictor of suicidal ideation for males and females in South Korea. For the females, unlike the males, Wang-tta or as victim of bullying behavior and sexual orientation as behavioral variables were predictive of suicidal ideation and all the psychosocial-environmental variables were not predictive of suicidal ideation.

Laukkanen, Honkalampi, Hintikka, Hintikka, and Lehtonen (2005) in a study found that suicidal ideation (SI) was reported by 64% of subjects, of whom 20% received no psychiatric diagnosis and 58% had depressive disorders. SI in boys was associated with being bullied at school and talking about one's problems only with friends, and in

girls with a negative attitude towards the future and a negative self-image of one's own mental health.

McMahon, Reulbach, Keeley, Perry, and Arensman (2010) also found that odds ratio of lifetime self-harm was four times higher for boys who had been bullied than those without this experience, while family support was protective against self-harm.

O'Donnell, O'Donnell, Wardlaw, and Stueve (2004), in a study on economically disadvantaged adolescents found that peer support was not a significant correlate of suicidal ideation or attempts, while family closeness came to be a strong resiliency factor.

Though infrequently studied in relations to adolescent impairment, non-family adults and significant others such as teachers, family friends, and friend's parents may offer additional or compensatory social support to some youth. For example, in their community sample, Slavin and Rainer (1990) found that among adolescent girls, higher social support from non-family adults predicted fewer symptoms of depression after six months, even after controlling for initial symptoms and other sources of support.

In the school setting several studies have pointed out that student' sense of belonging, i.e. feeling connected to school and being valued by classmates and teachers (Hagerty, Lynch-Sauer, Patusky, Bouwsema, & Collier, 1992), was a promising school variable that related positively to liking the school, enjoying class, having a concern for others and having conflict-resolution skills (Soloman, Battistich, Watson, Schaps, & Lewis, 2000); and related negatively to depressive symptoms, social rejection (Anderman, 2002), peer victimization, delinquency and drug use (Battistich & Hom, 1997). Studies also found that adolescents perceiving higher levels of teacher support, in

addition to parental and peer support, reported having higher self-esteem and lower levels of depression (Colarossi & Eccles, 2003; Reddy, Rhodes, & Mulhall, 2003).

Only few studies have examined whether non-family sources overlap with, supplement, or interact with family support to predict suicidal ideation among adolescents.

A study was conducted by Sun and Hui (2007a) involving interviews with 13 adolescents with high levels of suicidal ideation which showed that the family, school and peers could act as effective support systems in times of stress. The school was seen as an important support system.

Portzky, De Wilde, and van Heeringen (2008) examined Dutch and Dutch speaking Belgian adolescents in which data were analyzed on 4,431 Belgian and 4,458 Dutch 15-16 year-old school pupils. Their results showed a significantly higher prevalence of deliberate self-harm in Belgian adolescents than in Dutch adolescents, higher scores on anxiety, less problem-oriented coping and more common use of alcohol and soft drugs. They were also at higher risk for the experience of several life events such as conflicts with peers, parents and partner, being bullied at school or exposure to suicidal behavior in family and friends. In addition, Belgian adolescents showed less communication with family or teachers about their problems and difficulties.

Tang et al. (2009) conducted a study in which a representative sample of 10,233 adolescent students was recruited to examine the rate of suicidal attempt and its correlates in the adolescents living in southern Taiwan. They found low connectedness to school as one of the several factors associated with suicidal attempt.

In a very recent study conducted by Matlin, Molock, and Tebes (2011) on 212 African American adolescents, family support and peer support were found to be associated with decreased suicidality, and peer support and community connectedness moderated the relationship between depressive symptoms and suicidality.

Studies have also attempted to test and develop a model of suicidal ideation (Sun et al., 2006), and have shown that family cohesion, a sense of school belonging and peer support were significant variables that predicted both adolescents' self-esteem and depression which in turn contributed to suicidal ideation (Sun & Hui, 2007b).

McGraw, Moore, Fuller, and Bates (2008) found high levels of negative affect associated with lower levels of family, peer, and school connectedness.

Lin et al. (2008) conducted a study on 12210 Taiwanese adolescent students. They found poorer family function, less satisfaction with peer relationships, less connectedness to school, and poor academic performance as some of the significant risk factor for depression.

Gender may play a crucial role in the relationship between social support and suicidality. For instance, peer support tends to increase as youth get older, and girls report more peer support than do boys (Kerr, Preuss, & King, 2006). However, among girls in a hospitalized sample, perceived family support was related to hopelessness, depression and suicidal thoughts, whereas among boys, peer support was most strongly related to depression and suicidal thoughts (Kerr et al., 2006).

Slevin and Rainer (1990) found that high school girls perceived greater support from non-family adults and peers than did boys, and that girls' perceptions were more strongly associated with depressive symptoms. Additionally, support from these sources

was associated with reductions in depressive symptoms over time for girls but not for boys. Similarly, Mazza and Reynolds (1998) reported that in a community sample of adolescents, higher social support predicted lower levels of suicidal ideation one year later among females only.

Springer, Parcel, Baumler, and Ross (2006), among 930 female and male, found female students who perceived low parental social support were significantly more likely to report engaging in all risk behaviors examined, and female students with perceptions of low school social cohesion were more likely to report suicidal ideation. Male students who reported low parental social support were significantly more likely to report suicidal ideation.

Though the role of social support in suicidal ideation has been well documented, the research is available which show contradictory results. In predicting suicide ideation among college students, Whatley and Clopton (1992) failed to show social support as an important predictor variable. Although social support was correlated significantly with suicidal ideation, depression was a better predictor of suicide ideation than social support.

Others have also found that perceptions of high social support sometimes are associated with greater impairment, such as greater depression severity (Barrera & Garrison-Jones, 1992) and depression relapse (Veiel, 1993).

Another study on high school students and adolescents have failed to find an association between measures of social wellbeing and suicidal ideation. After reviewing 5 studies examining social support and suicidal behaviour in adolescents, Evans, Hawton, and Rodham (2004) found the results to be inconclusive.

Similarly, Cheung, Law, Chan, Liu, and Yip (2006) in a random and representative sample of 2219 Chinese population in Hong Kong found social support to play little role as a buffer.

The inconsistent result of studies of social and suicidal behaviour may be due to differences between high school and college students (adolescent age differences) and sex differences in the role of social support as a protective factor.

Role of Demographic variables

As far as gender is concerned, information regarding differences between male and female adolescents on different aspect of suicidal behavior is mixed and, therefore, inconclusive. Most studies are indicative of suicidal ideation to be more prevalent among women as compared to men across all countries and cultures. Where as completed suicide rate is higher for boys as compared to girls.

Weissman et al. (1999) reviewed nine independently conducted epidemiological surveys to compare the rate of suicide ideation (SI) and attempts across diverse countries— US, Canada, Puerto Rico, France, West Germany, Lebanon, Taiwan, Korea, and New Zealand. They found that as far as SI is concerned females had only marginally higher rate in most countries than males except in Taiwan, where there was 2 fold increase in SI rates among females. As far as suicide attempts is concerned females had more consistently higher rates than males, reaching a 2- to 3- fold increase in most countries.

Choquet and Menke (1989) also reported the life time prevalence of SI in a community sample of adolescents in France to be 14% for boys and 23% for girls.

Kienhorst et al. (1990) and Grossman, Milligan, and Deyo (1991) found, in their studies, female sex to be significant for NFSB, even after controlling for other demographic and psychosocial variables.

Rich et al. (1992) and Adcock, Nagy, and Simpson (1991) reported that female adolescents had higher suicidal ideation and risks than males, but gender was not found to be a predictor of suicidal ideation.

Lewinsohn et al. (1993) found that females were having more risk factors for suicide attempt and also showing a greater vulnerability to the risk factors than did males.

Tomori, Zalar, and Kores Plesnicar (2000) conducted a study in which they investigated suicidal ideation and suicide attempts among 4,590 high school students (aged 14 to 19 year). They found that girls more often than boys reported suicidal ideation and suicide attempts in addition to other problems.

Higher levels of suicidal ideation among women than men was also reported in a study by Stephenson, Pena-Shaff, and Quirk (2006).

In international experience, females were found to be more likely to report suicidal tendencies than males (Chen, Lee, Wong, & Kaur, 2005; Kotila, 1992; Liu et al., 2005; Ruangkanchanasetr, Plitponkarnpim, Hetrakul, & Kongsakon, 2005; Sosin, Koepsell, Rivara, & Mercy, 1994). The same finding was also observed in the Indian studies by Logaraj, Felix, and Vedapriya (2005) and Lalwani, Sharma, Kabra, Girdhar, and Dogra (2004).

Sharma, Grover, and Chaturvedi (2008) in a cross-sectional study on adolescent students in three schools and two colleges at South Delhi found the frequency of having thought of attempting suicide to be more in females than males.

Yoder et al. (2006) examined correlates of suicidal ideation among 212 American Indian youth (12 years old). They found females were over 2 times more likely than males to think about suicide. They also indicated that gender, enculturation, negative life events, perceived discrimination, self-esteem, and drug use were related to the likelihood of thinking about suicide.

Some other studies have also reported that female adolescents have higher prevalence of suicidal ideation than males (De Man et al., 1993a; Pronovost, Côté, & Ross, 1990; Sidhartha & Jena, 2006).

Laghi, Baiocco, D'Alessio, and Gurrieri (2009) conducted a study on a sample of 3700 Italian adolescents to see the impact of time perspective on suicidal ideation. They found, overall, 9.2% of the sample reported severe suicidal ideation during the past two weeks; 7.6% reported moderate suicidal ideation. Female adolescents were more likely to report severe suicidal ideation when compared to males. Any differences were not found regarding age and SES.

Suicidal ideation among females may be attributed to females' higher susceptibility for depression and hopelessness. Numerous studies have demonstrated that levels of depressive symptomatology and suicidal ideation are higher in females as compared to males. It is also known that depression and suicidal ideation are strongly associated (Goldney, Wilson, Dal Grande, Fisher, & McFarlane, 2000; Roberts & Chen, 1995).

Allison et al. (2001) in a study on young adolescent male and female students (mean age 13.5 yrs.), found that suicidal ideation was more frequently reported by females as compared to males which was partly explained by females having higher

mean depression scores. Even at moderate levels of depression females had a significantly higher risk of suicidal ideation in comparison to males.

Ulusoy and Demir (2005) conducted a study on suicidal ideation among a sample of 726 adolescents (aged 17-18 years), they collected data from high schools of Ankara, Turkey. They found that suicidal ideation was significantly more endorsed among female adolescents in comparison to males. Their results further revealed that there were statistically significant relationships among gender, cigarette smoking, school achievement, anxiety/depression and suicidal ideation.

Waldrop et al. (2007) examined factors associated with suicidal ideation and suicide attempts among a national probability sample of adolescents. They found that suicidal ideation was positively associated with female gender, age, family alcohol and drug problems, violence exposure, lifetime depression, and posttraumatic stress disorder (PTSD). Suicide attempts were associated with female gender, age, sexual and physical assault, lifetime substance abuse or dependence, PTSD, and depression.

Girls make attempts more frequently than do boys (Garfinkel, Froese, & Hood, 1982), whereas boys lead in number of completed suicides (Rosenthal, 1981; Sommer, 1984; Withers & Kaplan, 1987). Rudd (1989) hypothesised that gender differences in suicide completion rates might be due to the lethality of the method of suicide preferred by the two sexes.

In India, a study was conducted by Kumar and Chandrasekaran (2000) in which they found that males outnumbered females as far as attempted suicide was concerned.

Evidence for sex differences in suicidal ideation is, however, mixed. For example, several investigations have reported higher rates of suicidal ideation for boys while others report similar rates of suicidal ideation for boys and girls.

Mackenzie et al. (2011) presented data from the College Health Intervention Projects on the frequency of depression and suicide ideation among 1,622 college students and found that the frequency of depression was similar for men (25%) and women (26%). Thought of suicide was higher for men (13%) than women (10%).

Stewart, Donaghey, Deary, and Ebmeier (2008) assessed levels of suicidal thinking in a large student population. They found over 10% of students stated that they had suicidal thoughts within the last few weeks, and men scored slightly higher than women on suicidal thoughts.

No gender difference in suicidal ideation was found by the researchers such as Harlow, Newcomb, and Bentler (1986), Rudd (1989, 1990), Wellman and Wellman (1986, 1988), Sherer (1985), Schweitzer, Klayich, and McLean (1995), Galaif, Chou, Sussman, and Dent (1998), Garrison et al. (1991), and Spirito, Sterling, Donaldson, and Arrigan (1996).

In a study, Edwards and Holden (2001) also failed to confirm the frequently reported sex differences in suicide attempts and ideation among non-clinical adolescents in the literature.

McAuliffe, Corcoran, Keeley, and Perry (2003) found that both genders were similar in terms of their suicide ideation.

Apart from other variables, age factor also plays important role in suicidal ideation and has major contribution in increment of suicide attempt. Research using

retrospective or cross-sectional data suggests that suicidal ideation rates were at peak-during mid-adolescence. Rueter and Kwon (2005) conducted a longitudinal study to examine suicidal ideation trend on a community sample of adolescents who reported suicidal ideation repeatedly over 7 years. They found that rates peaked at age 15 years.

Similarly, Bolger, Downey, Walker, and Steininger (1989) conducted a study on suicidal thoughts among 364 college students. They found that suicidal thoughts in childhood are typical and that the risk of such thoughts begins to increase by age nine. Further they also found that risk rates were affected by demographic factors (gender, race) and by the experience of parental absence.

Dubow et al. (1989) conducted a study on 1,384 junior high and high school students, and found that ninth graders were most at risk for experiencing suicidal thought.

Similarly, in a study on British population by Gunnell, Harbord, Singleton, Jenkins, and Lewis (2004) found incidence of suicidal thoughts was highest in women and among16- to 24-year-olds. Increased incidence was also associated with not being in a stable relationship, low levels of social support and being unemployed.

Grucza, Przybeck, and Cloninger (2005) found that young age as one of the predictor of suicide attempts.

Arslan, Akçan, Hilal, Batuk, and Çekin (2007) found adolescents of 16–18 years of age constituted the overwhelming majority (70.43% n= 131) of all childhood suicides.

LeMaster, Beals, Novins, Manson, and the AI-SUPERPFP Team (2004) examined the prevalence of suicidal behavior among 1,638 Northern Plains American Indians (ages 15–57). They found that suicidal behaviors were higher in females than males and higher in younger respondents than older respondents.

Garcia, Skay, Sieving, Naughton, and Bearinger (2008) conducted secondary analysis of 2004 Minnesota Student Survey data of a statewide sample of Latino 9th- and 12th-grade students and found that 30-40% of the ninth-grade Latino girls reported suicidal thoughts and 14-19% reported attempting suicide in the past year.

Thompson and Light (2011) indicated that younger age and somatic symptoms were risk factors for making a nonfatal suicide attempt 1 year later for females but not for males.

A study conducted by Fedorowicz and Fombonne (2007) on suicide ideation and suicide attempts among the sample 1106 French adolescents and young adults (aged 15 to 26 years) found that rates of suicidal ideation, plans and attempts generally increased between the ages of 15 and 20 years and decreased after age 21.

However, other studies report contradictory findings for example Guyer, Lescohier, Gallagher, Hausman, and Azzara (1989) observed that older adolescents were at greater risk for NFSB than younger ones in a univariate analysis. Others have noted that suicidal ideation is more prevalent among older adolescents (e.g., De Man et al., 1993b; Kashani, Goddard, & Reid, 1989). De Catanzaro (1987) reported that suicide is rare in children under 14, and Brooksbank (1985) found that, even allowing for systematic underreporting, suicide are still uncommon under the age of 16.

Ponizovsky, Ritsner, and Modai (1999) in a study on a sample of Jewish immigrants (aged 11-18 yrs.) found that older adolescents reported suicidal ideation 2 times more frequently than their younger counterparts.

Fergusson, Woodward, and Horwood (2000) in a 21-yr longitudinal study in New Zealand, found that by the age of 21 years, 28.8% of the sample reported having thought about killing themselves and 7.5% reported having made a suicide attempts.

Lee, Tsang, Li, Phillips, and Kleinman (2007) in a sample of 1,226 Chinese people born and living in Hong Kong, found that female gender, older age, and the presence of suicidal ideation were associated with more contemplation of suicide.

Waldrop et al. (2007) also found, suicidal ideation was positively associated with female gender and age.

Chang, Yang, Lin, Ku, and Lee (2008) collected data between January 2005 and July 2007 on 2341 Taiwanese urban adolescents (aged from 12 to 18 years) in middle and high school, found middle school students were likely to report a greater amount of suicidal ideation.

Laghi et al. (2009) however, failed to find age differences in suicidal ideation in a sample of 3700 Italian adolescents.

Academic performance is one of the most crucial factors that can influence adolescents behavior in different ways. Several investigators have noted that school failures and falling behind the appropriate grade were prominent among both adolescent suicide completers and attempters. Iga (1981) described the pervasive concern about gaining entrance into school and performing in school well enough to stay in it as primary contributing factor for suicides of Japanese youth. Pfeffer, Conte, Plutchik, and Jerrett (1979, 1980) found the suicidal children of in-patient group were much more worried about doing poorly in school than the nonsuicidal controls. Other researchers

also found poor school grades to be significantly associated with NFSB, suicidal ideation, and suicide attempt (Dubow et al., 1989; Liu et al., 2005; Tang et al., 2009).

Borowsky et al. (2001) conducted a study among black, Hispanic, and white male and female adolescents and found high grade point average as an additional protective factor for all of the boys.

Hesketh, Ding, and Jenkins (2002) in a cross-sectional survey in 6 middle schools (1,576 Ss predominant age range 13-17 years) found poor self-reported academic performance to be associated with severe depression, SI, and SA.

Richardson et al. (2005) in a study on adolescents (mean age 13 years) found that failing academic performance (compared to above average) was associated with a fivefold increased likelihood of a suicide attempt, controlling for self-esteem, locus of control and depressive symptoms.

In another study, Martin, Richardson, Bergen, Roeger, and Allison (2005) among school students (aged 13 to 15 years), found that perceived academic performance, over and above self-esteem and locus of control was a good long-term predictor of suicidality.

Other studies (Henry et al., 1993), however, reported that serious suicide attempts seem to be higher among students who experienced considerable academic success. They argued that academically successful students experience greater amount of stress than do their less successful peers because more successful students feel more pressure to maintain their level of performance. However, students who have consistently exhibited a pattern of academic failure may simply engage in risk-taking behaviors (e.g., criminal acts, risky sexual activity) that predispose them to suicidality. Tikkanen et al. (2009) in a study from 508 adolescents (300 girls, 208 boys; age 12–17 years) admitted to inpatient

psychiatric hospitalization between April 2001 and March 2006, found an elevated risk of suicidal ideation and of psychotic disorders was observed among male adolescents performing well in school. In addition, adolescents with poor school performance had an increased likelihood of substance-related disorder both in boys and girls. On the other hand, Petzel and Riddle (1981) observed that poor or an overachieved academic performance can serve as a precursor to stress, subsequent depression, and suicidality.

Wang, Deng, Wang, Wanga, and Xu (2009) conducted a study from findings from the 2004 Guangzhou Youth Risk Behaviour Survey. They found male gender to be negatively associated with feeling sad or hopeless and suicide ideation and being in Grades 4–6 to be negatively associated with suicide attempts. Furthermore, higher parental education was positively associated with feeling sad or hopeless, and suicidal ideation.

Tang et al. (2009) among adolescent students found low maternal education was one of the several factors associated with suicidal attempt.

Albers and Evans (1994) on 1,728 eighth and tenth grade southern Nevada students from 23 schools, did not find differences between rural and urban adolescents, although results did indicate that grade, gender, and school achievement variations exist between rural and urban student populations.

Indian Studies

Latha, Bhat, and D'Souze (1994) conducted a study on a group of 73 individuals (aged 11-65 years) who attempted suicide, 58 depressives (aged 16-51 yrs.), and 60 normal controls (aged 18- 53 years). Findings indicate that compared to the depressives and controls, suicidal individuals reported more stressful life events which concluded

marital discord, conflicts with in-laws or family, problems with love affairs, illness, death in family, and unemployment.

Dhar and Basu (2006) compared suicidal ideation, number of life events, presumptive stress and 12 ego functions between college students, with 'high' and low suicidal risk. The results indicated that significant differences were present between the two groups regarding number of life events, amount of presumptive stress, and specially on 8 ego functions. There was also a significant positive relationship of number of life events and presumptive stress with suicidal ideation and 5 ego functions and presumptive stress contributed significantly in the development of psychopathology of suicidal ideation.

A suitable scale of stressful life events experienced by the Indian population was constructed by Gupta and Pradhan and life events experienced before a suicide attempt were compared with events for two matched control groups. The findings indicated a strong and immediate relationship between suicide attempt and life events (Gupta & Pradhan, 2007).

Singh and Joshi (2008) examined the relationship of depression, life stress, and personality with suicidal ideation among 250 college students (125 male & 125 female) drawn from different colleges of Haryana. It was found that suicidal ideation was positively associated with depression, stressful life events and two dimensions of personality i.e. extraversion and psychoticism.

Chatterjee and Basu (2010) investigated the intrinsic and extrinsic factors that would evoke suicidal ideation among 120 female college students. Content analysis of interview revealed four broad factors leading to suicidal ideation, namely, academic,

interpersonal, and environment related. Events like public embarrassment due to some freaky incident, harassment, rape and being jilted in love were relatively more important while events like death of a loved one and acute financial crisis were found relatively less significant. Results also revealed that about 12.5% of the students had high suicidal ideation. Reasons for living (total score) were found to have negative but significant relation to suicidal thought. Concern for future and moral objections were found to be strongly and negatively related to suicidal thought.

Arun and Chavan (2009) conducted a study on 2402 students from classes VII to XII and concluded that students with academic problems and unsupportive environment at home perceived life as a burden and had higher rates of suicidal ideations.

Pillai, Andrews, and Patel (2009) conducted a cross-sectional study of 3662 youth (16–24 years) from rural and urban communities in Goa, India, to estimate the prevalence and risk factors for suicidal behaviour in young people in India. Suicidal behaviour during the recent 3 months and associated factors were assessed using a structured interview. Overall 3.9% youth reported any suicidal behaviour in the previous 3 months. Suicidal behaviour was found to be associated with female gender, not attending school or college, independent decision making, premarital sex, physical abuse at home, life time experience of sexual abuse and probable common mental disorders (CMD). Gender segregated analysis found independent decision making, rural residence and premarital sex retained association with suicidal behaviour only among females; violence and psychological distress are independently associated with suicidal behaviour; factors associated with gender disadvantage— in particular for rural women, may increase their vulnerabilities.

Manani and Sharma (2011), conducted a study on a sample of 180 students of U.P. Board, CBSE Board and I.S.C. Board of affiliated schools of Agra city, 60 students in each group (30 boys and 30 girls; aged 16-18 years), found that students of CBSE board have higher level of suicidal ideation than the students of ISC board but lower than the students of U.P. Board. Their result shows that there is no significant difference in suicidal ideation among male and female students. Further, it was found that students having high examination anxiety have higher level of suicidal ideation than those who are having low level of examination anxiety.

It is observed that despite an alarmingly high suicide rate among adolescents in India, there is scarcity of research in this field. Furthermore, most of the studies conducted on suicidal ideation concentrated on stressful negative life events and few studies have been conducted on student stress. In India there is heavy academic and social pressure that leads to negative emotional states and internalising of problems. Their life faces several ups and downs. Stress is experienced as a result of increased peer pressure, conflict with parents, academic concerns, parents and teachers demands for high academic achievement, and successfully competing in admission tests for different courses. As student stress is experienced by most of the adolescents and this stressful life leads to depression, anxiety, and in severe cases suicidal thought and suicidal attempts, it was decided to explore the predictive relationship between student stress and suicidal ideation.

There is also considerable evidence supporting the beneficial influence of optimism and perceived satisfaction with social support. Two models have been proposed to explain the effect of social support (Cohen & Wills, 1985): the main or direct effect

model and stress buffering model. The same models have also been supported for the role of optimism on health outcomes (Segerstorm, 2000). Because the main and stress buffering models are not mutually exclusive, both models will be examined in the present investigation.

The review of the literature also reveal that student stress, optimism, and perceived social support have not been taken together in relation to suicidal ideation. The present study is therefore designed with the objective to examine the role of stress, optimism, perceived social support, and their interactions in relation to suicidal ideation.

Hypotheses

In order to achieve the above objective the following hypotheses were formulated:

1. Female students will score significantly higher on suicidal ideation as compared to male students.

2. There will be no significant difference between Secondary School students and Senior Secondary School students on suicidal ideation.

3. There will be positive predictive relationship between stress and suicidal ideation.

4. Optimism will have negative predictive relationship with suicidal ideation.

5. Social support will significantly negatively predict suicidal ideation (5.1, 5.2, and 5.3).

    5.1. Family support will have negative predictive relationship with suicidal ideation.

5.2. Friends support will have negative predictive relationship with suicidal ideation.

5.3. Significant others support will have negative predictive relationship with suicidal ideation.

6. The relationship between stress and suicidal ideation will be stronger for adolescents with low optimism than for those with high optimism suggesting that optimism will moderate the relationship between adolescent stress and suicidal ideation. Moderator status is achieved if the interaction between the independent variables is significant (Baron & Kenny, 1986).

7. Social support (from family, peers and significant others) will moderate the relationship between adolescent stress and suicidal ideation. Specifically speaking, a weaker stress-suicidal ideation relationship is expected for adolescents higher in perceived social support relative to those lower in perceived social support. In other words, social support will be a buffering effect on the relationship between stress and suicidal ideation.

8. Predictors of suicidal ideation for boys and girls will be different.

9. Predictors of suicidal ideation for the students of secondary school (Grade IX^{th} and X^{th}) and senior secondary school (Grade XI^{th} and XII^{th}) will be different.

Chapter-III

Method

Method

In any scientific research methodology plays a very significant and crucial role. Edwards (1971) believed that "in research we do not haphazardly make observation of any or all kind, but rather our attention is directed towards those observations that we believe to be relevant to the question we have previously formulated. The objective of the research, as recognised by all sciences, is to use observation as basis for answering questions of interest."

Methodology has its own importance in scientific investigation because objectivity in any research investigation cannot be obtained unless it is carried out in a very systemic and planned manner. Scientific investigation involves careful adoption of appropriate research design, use of standardized tools and tests, choosing adequate sample by using appropriate sampling techniques, undertaking sound procedures for collecting data, and use of appropriate statistical techniques for analysing the data.

The purpose of the present research was to study the role of stress, optimism and social support in suicidal ideation among adolescents. The details of the methodological steps i.e. description of the sample, tools, and statistical analyses is presented as follows:

Sample

In general, sample is a small proportion of a specific population or universe as representative of that particular population or universe. Mohsin (1984) stated that "a sample is a small part of total existing events, objects, or the information." The sample of the present study consisted of 400 adolescent students randomly selected (200 males and 200 females) from Aligarh Muslim University (AMU), Aligarh. This was a convenience

sample and participants were from Grade IX through XII students. The age of the subjects ranged from 13 to 21 years with a mean age of 15.940 years (SD = 1.386). 200 adolescents of each group i.e. Secondary School Certificate examination students (SSC; Grade IX and X; mean age = 14.915, SD = .923) and Senior Secondary School Certificate examination students (SSSC; Grade XI and XII; mean age = 16.965, SD = .942) were selected as subjects for the present study.

The breakup of the sample according to age, grade, sex and other demographic characteristics is given in Table 3.1.

All adolescent were students in regular classes at secondary and senior secondary schools of Aligarh Muslim University, Aligarh. All the respondents were unmarried, nonworking and with no apparent physical or mental illness. In general the subjects were having good health and did not suffer from any serious or chronic ailment. All students came from middle class and upper middle class (moderate) socioeconomic background.

Table 3.1

Demographics Characteristics of the sample (N = 400)

	Frequency	Percentage of total sample	Mean	SD
Gender				
Males	200	50%		
Females	200	50%		
Grade				
9th	99	24.8%		
10th	101	25.2%		
11th	97	24.2%		
12th	103	25.8%		
Age			15.940	1.386
13	11	2.8%		
14	54	13.5%		
15	88	22.0%		
16	102	25.5%		
17	99	24.8%		
18	37	9.2%		
19	5	1.2%		
20	3	.8%		
21	1	.2%		
Family Background				
Rural	110	27.5%		
Urban	290	72.5%		
Joint	144	36.0%		
Nuclear	256	64.0%		
Father's Education				
Uneducated/Below High School	14	3.5%		
High School	38	9.5%		
Graduate	99	24.8%		
PG & Non Professional	147	36.8%		
PG & Professional	102	25.5%		
Mother's Education				
Uneducated/Below High School	147	36.8%		
High School	67	16.8%		
Graduate	63	15.8%		
PG & Non Professional	73	18.2%		
PG & Professional	50	12.5%		

Measures/Tools

A five-part questionnaire was designed to collect the data. The first part included questionnaire about demographic and familial background characteristics of adolescents, the second part a measure of optimism (LOT-R), the third part a measure of perceived social support (MSPSS), the fourth part a measure of stress (SSS) and the fifth part included the measure of suicidal ideation (SSI) of students.

In short, the following tools were used to measure stress, optimism, social support and suicidal ideation of adolescents.

1. Personal Data Sheet
2. Life Orientation Test-Revised (LOT-R)
3. Multidimensional Scale of Perceived Social Support (MSPSS)
4. Student Stress Scale (SSS)
5. Scale for Suicidal Ideation (SSI)

A detailed description of these scales is as follows:

Life Orientation Test-Revised (LOT-R): Optimism was measured by the Life Orientation Test-Revised (Scheier, Carver, & Bridges, 1994). It consists of 10 statements (3 positively worded, 3 negatively worded and 4 filler items). The LOT-R is a brief modified version of the original Life Orientation Test (Scheier and Carver, 1985) and has been found to correlate .95 with the later (Scheier et al., 1994).

Only 6 of the 10 items on the revised LOT are used to derive an optimism score. Four items are the filler items and they are not used for scoring purpose. Of the 6 items

that are scored, 3 are keyed in positive direction (i.e. items 1, 4, and 10), and 3 are keyed in negative direction (i.e. items 3, 7, and 9). Respondents are asked to indicate the extent of their agreement with each of the items using the following response format: 0 = Strongly Disagree, 1 = Disagree, 2 = Neutral, 3 = Agree and 4 = Strongly Agree. Scoring of negatively worded items (i.e. items 3, 7, and 9) is done in reverse order. Scoring of these 6 items is then summed up to compute an overall optimism score with high score representing greater optimism. In other words higher scores are indicative of greater optimism, and lower scores are indicative of lower optimism, often referred to as pessimism (Scheier & Carver, 1985; Scheier et al., 1994).

The scores generally range between 0 to 24, the inter-item correlations ranges from .43 to .63, Chronbach's alpha is .78. LOT-R has been found to be fairly stable across time with sufficient convergent and discriminant validity. The LOT is valid and it has good temporal stability over 4 weeks (r = .79), 4 month (r = .68), and 12 month (r = .60; Scheier & Carver, 1985, Scheier et al., 1994). Dispositional optimism, as measured by LOT-R, has adequate construct and predictive validity (Scheier & Carver, 1987); it is differentiated from state optimism (Burke, Joyner, Czech, & Wilson, 2000) and general happiness (Lyubomirsky & Lepper, 1999), has a negative relationship with hopelessness (Hirsch & Conner, 2006), and is associated with a wide array of beneficial physical and physiological outcomes (Chang & Sanna, 2001; Scheier & Carver, 1992).

LOT scores correlated positively with self-esteem and negatively with measures of hopelessness, depression, perceived stress, alienation, social anxiety, and symptoms of physical illness (Scheier & Carver, 1985).

It has been used extensively in studies of stress, both with college students and with people going through stressful events, such as medical populations, facing or recovering from serious diseases or treatments.

Multidimensional Scale of Perceived Social Support (MSPSS): The Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet, & Farley, 1988) was developed as a brief self-report measure of subjectively assessed social support. Item ratings were made on a 7-point Likert-type scale ranging from Very Strongly Disagree (1) to Very Strongly Agree (7). The 12-item MSPSS was designed to measure the perceived adequacy of support from the following three sources: family (Item 3, 4, 8, and 11), friends (Item 6, 7, 9, and 12), and significant others (Item 1, 2, 5, and 10). Higher scores on each of the subscales indicate higher levels of perceived support, and a sum of three scales yields a Global satisfaction with perceived support.

Initially, the MSPSS was constructed with 24 items addressing relationships with family, friends, and a significant other in the following areas: social popularity (e.g., "I receive invitations to be with others"), respect (e.g., "people, look up to me"), and items directly related to perceived social support (e.g., "I get the help and support I need from my friends"). Each items was rated on a 5-point Likert-type scale ranging from strongly disagree (1) to strongly agree (5). The results of several pilot studies led to the changes in the rating system, which was explained from 5 to 7 point scale.

Cronback's coefficient alpha, a measure of internal consistency was obtained from a sample of Duke University undergraduate students for the scale as a whole as well as each subscale. For the Significant Other, Family, and Friends subscales, the values were .91, .87, and .85, respectively. The reliability of the total scale was .88. These values

indicate good internal consistency for the scale as a whole and for the three subscales. The test-retest reliability (temporal stability over 2 to 3 months) for the Significant Other, Family and Friends subscales were .72, .85, and .75, respectively. For the whole scale the value obtained was .85 (Zimet et al., 1988).

Cronbach's coefficient alpha, was obtained for MSPSS subscales and for the scale as a whole, using three subject groups, (i.e. pregnant women/prepartum, adolescents and first and second year pediatric residents). The coefficient alpha values ranged from .81 to .90 for Family subscale, from .90 to .94 for the Friend subscale, from .83 to .93 for Significant Other subscale, and from .84 to .92 from scale as a whole (Zimet, Powell, Farley, Werkman, & Berkoff, 1990). Therefore, the MSPSS demonstrated very good internal reliability with coefficient alpha levels comparable to those obtained in original study (Zimet et al., 1988).

In a study on a university sample and a psychiatric sample Clara, Cox, Enns, Murray, and Torgrude found the following measures of reliability. The Cronbach alphas for the three subscales in the two samples were as follows: Friends α = .94 (psychiatric sample) and .93 (university sample), Family α = .92 (psychiatric sample) and .92 (university sample), and Significant Others α = .94 (psychiatric sample) and .93 (university sample; Clara et al., 2003).

The MSPSS has shown adequate internal consistency in samples of adolescents (Canty-Mitchell & Zimet, 2000) and psychiatric outpatients (Cecil, Stanley, Carrion, & Swann, 1995).

The MSPSS subscales show adequate discriminative validity by the Family Caring Scale than the Friends and Significant Others subscales (Canty-Mitchell & Zimet,

2000). Kazarian and McCabe (1991) found the MSPSS Global perceived support score was highly correlated with a measure of social support behaviors. The MSPSS has shown adequate construct validity in Zimet et al. (1988) and Eker and Arkar (1995) who found the Global perceived support score and the subscale scores to correlate negatively with measures of depression and anxiety in university sample and psychiatric patients. Furthermore, the reliability, validity, and factor structure of the MSPSS have been demonstrated in a number of studies across different samples (e.g., Dahlem, Zimet, & Walker, 1991).

Student Stress Scale (SSS): For measuring stress typically experienced by the students, Student Stress Scale developed by Husain, Rashid, and Jahan (2006) was used. The scale consists of 57 items with the four point rating scale ranging from "no stress at all" (scored as 0) to "extreme stress" (scored as 3). This scale is unidimensional and aims to measure the level of stress experienced by students. The Cronbach Coefficient alpha of this inventory is 0.96. Content validity of the scale is satisfactory.

The validity of the SSS against Dobson's Student Stress Inventory (Dobson & Alban Metacalfe, 1983) was determined by the present researcher. For this purpose both the scales were administered on a sample of 100 students. The coefficient of correlation between the two scales was found to be .782.

The Scale for Suicidal Ideation (SSI): Suicidal ideation among the students was assessed with the help of 19 item self-report Scale for Suicidal Ideation. This scale is a 19-item clinical research tool developed by Beck et al. (1979) for assessing and quantifying the degree of suicide intent in populations/ samples of suicide ideators / contemplators. The SSI was designed to quantify the intensity of current conscious

suicidal intent by scaling various dimensions of self-destructive thoughts or wishes. The items assess the extent of suicidal thoughts and their characteristics as well as the respondent's attitude towards them; the extent of the wish to die, the desire to make an actual suicide attempt, and details of plans, if any; internal deterrents to an active attempt; and subjective feeling of control / or "courage" regarding a proposed attempt. Each item consists of three alternative statements graded in intensity from 0 to 2. The instrument's total score is the sum of the individual item scores and may range from 0 (low ideation) to 38 (high ideation). In other words, a positive rating (>1) on any of the ideation scale's 19 items is considered as a potential indicator of suicide ideation.

Beck et al. (1979) described the reliability of SSI by internal consistency and interrater reliability. The internal consistency of SSI was determined on a sample of 90 patients who were hospitalized for self-destructive rumination. The internal consistency of the SSI was evaluated through two methods. First, an item analysis showed that each item had a positive correlation with the total scale score and that 16 of the 19 coefficients were significant (i.e. the item-total score correlations ranged from .04 to .72).

The second method of evaluating internal consistency was the determination of coefficient alpha, KR-20 (Cronbach, 1951). For the 90 cases, a reliability coefficient of .89 was obtained.

Twenty-five of the 90 consecutively admitted patients were seen concurrently by two clinicians who alternated in interviewing successive patients. Following the interview, each clinician independently completed the SSI. The interrater reliability coefficient was .83 ($p < .001$).

Beck et al. (1979) also demonstrated different types of validity (i.e. concurrent validity, discriminative validity, and construct validity etc.) for SSI.

Concurrent validity of SSI was evaluated by determining how well the scale scores correlated with other measures of suicidal ideation or suicidal risk, such as clinical evaluations and psychological inventory scores. For example the SSI scores were also compared to the "self-harm" items of the Beck Depression Inventory (BDI; Beck, 1972). The correlation between ideation scores and the BDI item was .41 ($p < .001$). The relatively low correlation may reflect the limited range (0-3) on the BDI item.

Discrimination validity was determined by comparisons of the SSI scores of the 90 patients hospitalized for the suicidal ideation (M = 9.43, SD = 8.44) and 50 outpatients who sought psychiatric treatment for their depression (M = 4.42, SD = 5.77). This yielded a significant between-groups difference ($t = 4.14$, $p < .001$). The two groups were similar in degree of depression as measured by the Beck Depression Inventory ($t = .67$, ns).

The SSI has also construct validity. The SSI scores from the previously described 90 patients were used to test a number of hypotheses relevant to the construct under investigation.

Pilot Study

In view of the applicability of the assessment tools in the present context the researcher carried out a pilot study on a sample of 200 students (100 boys and 100 girls) selected randomly from SSC and SSSC schools of Aligarh Muslim University, Aligarh. The purpose of this pilot study was to determine the psychometric properties of the LOT-R, MSPSS, and SSI scales for the present sample.

Internal consistency coefficients of the original scales and as obtained for the present sample are set in the following table:

Table 3.2

Camparison of Cronbach's Coefficient Alpha (α) values as obtained by the Authors of the Scales and by the Researcher for the present sample

Scale	'α' by the author	'α' obtained by the researcher for the present sample
LOT-R	.78	.77
MSPSS		
Family Support	.87	.89
Friends Support	.85	.87
Significant others Support	.91	.88
Global/total Support	.88	.90
SSI	.89	.88

A perusal of the coefficients in the table justifies the use of the above tools by the researcher in the present investigation.

Procedure of Data Collection

Prior to the data collection, the authorities of the educational institutes were approached for their permission and cooperation to collect data from their students. After obtaining permission with ensured cooperation the researcher visited the institutions and made all the necessary arrangements for the administration of the tests. The data were collected in class room situations. SSSC students belonging to the streams of Science and Arts/Social Science, and SSC students were selected as subjects for the present study.

After getting the willingness of subjects a congenial rapport was established to make them comfortable.

The investigator visited the classrooms and took 2 to 3 minutes time to introduce herself and the purpose of her research to students. Then she distributed the copies of questionnaires (which contained Personal data sheet and 4 scales) to students. This was done with the help of the teacher concerned.

Subjects were instructed to go through the instructions written in the questionnaires before answering each questionnaire. The instructions were also read to them loudly by the investigator, so that all students may follow them correctly. Examinees were asked not to leave any item unanswered. They were also asked to be free to ask if they had any queries.

There was no time limit fixed for filling up the questionnaires. However, they were asked not to take unnecessarily long time. Most students completed the questionnaires within approximately 35 to 40 minutes i.e. time allotted for one period. The general testing conditions were satisfactory and the procedure was uniform throughout the data collection. The same procedure was repeated in each class. After data collection, scoring of the responses was done according to the scoring procedure prescribed for each scale.

Data Analysis

SPSS 16.0 of Windows software was used for the statistical analyses. To determine sample characteristics and standard descriptive statistics, independent sample t-tests, and Pearson correlation coefficient were used. In order to test main and moderator effects, a five-step hierarchical linear regression analysis predicting suicidal ideation was used.

A hierarchical linear regression analysis is a more advanced form of multiple linear regressions in which independent variables can be entered one at a time or in blocks based on the logical or theoretical consideration. Here, hierarchical linear regression analyses were used to examine the effects of risk (i.e. Stress) and protective (i.e. Optimism and Social Support) factors on Suicidal Ideation after controlling for socio-demographic variables (gender, percentage of marks in preceding Grade examination, & father's educational level). Furthermore, hierarchical regression analyses were used to evaluate whether optimism, social support from family, friends, and significant others moderated the relationship between stress and suicidal ideation. To test for interaction effects, an interaction term was formed by multiplying the independent variable and the moderator variable (Aiken & West, 1991). As generating the new variable by multiplying together two existing variables risks creating a multicollinearity problem, the procedure called 'standardizing' was used. This procedure outlined by Aiken and West (1991) requires that all continuous variable should be converted into standard score and then standardized variables are multiplied together to create the interaction variable. This procedure reduces the problem of multicollinearity by reducing the size of any high correlation of the independent variable or the moderator variable with the new interaction variable.

Thus stress, optimism, perceived support from family, friends, and significant others, and the product terms Stress X Optimism, Stress X Family support, Stress X Friends support, and Stress X Significant others support were used to predict suicidal ideation.

Conceptually, a moderator is a variable that interacts with a causal agent and alters the direction or strength of the relation between an independent variable and a dependent variable. Moderator effect is present when the interaction term between the predictor and the moderator is found to be significant (Baron & Kenny, 1986; Jaccard & Turrisi, 2003).

Separate hierarchical linear multiple regression models for total sample, girls and boys, and Secondary School and Senior Secondary School students were conducted with demographic variables (control variables) entered first followed by the independent variables and the interaction terms.

Chapter-IV

Results

Results

This chapter presents the results of the study. A crucial point in any research that is undertaken, is to present cogently the findings that have come to light and indicate what they mean. The purpose of the present investigation was to study the role of stress, optimism and social support in suicidal ideation among adolescents. The first step in the analyses comprises descriptive statistics and group differences on the independent and dependent variables and intercorrelations among all the variables.

The second step in the analyses involves hierarchical multiple regression analyses for examining the contribution of the different variables of the study in predicting suicidal ideation. Hierarchical regression analyses were done for the total sample and different subgroups like Secondary School students (SS students/ IX^{th} and X^{th} grade students), Senior Secondary School students (SSS students/ XI^{th} and XII^{th} grade students), boys, and girls, separately.

The analyses also probed the significant interactions by using the procedure recommended by Aiken and West (1991) and Holmbeck (2002). We restructured the significant regression equations to express the regression of suicidal ideation on stress at levels of the moderator variables (i.e. optimism and social support from family, friends, and significant others). The results of the analyses are presented in the following pages.

Results of the Descriptive Statistics

Means, Standard Deviations, Standard Error of Mean and obtained range of scores with possible score of the major variables are displayed in Table 4.1.

Table 4.1

Descriptive Statistics of Study Variables (N = 400)

Variables	Suicidal Ideation	Stress	Optimism	Family Support	Friends Support	Sign. others Support	Total Support (MSPSS)
Mean	10.515	79.828	14.795	23.083	20.753	21.155	64.990
SD	5.680	22.968	2.806	3.866	4.239	5.133	10.014
S_{EM}	.284	1.148	.140	.193	.21196	.257	.501
Obtained Range	0-34	10-142	8-22	7-28	5-28	4-28	30-84
Possible Score	0-38	0-171	0-24	4-28	4-28	4-28	12-84

Correlation coefficients among the study variables are presented in Table 4.2.

Table 4.2

Inter-correlations among Study Variables

Variables	1	2	3	4	5	6	7
1. Suicidal Ideation	1.00						
2. Stress	.527**	1.00					
3. Optimism	-.564**	-.210**	1.00				
4. Family Support	-.492**	-.226**	.349**	1.00			
5. Friends Support	-.273**	-.088	.170**	.328**	1.00		
6. Sign. others Sup.	-.222**	-.020	.139**	.329**	.395**	1.00	
7. Global Support	-.419**	-.135**	.278**	.694**	.753**	.807**	1.00

Note: N = 400. *$p < .05$. **$p < .01$.

As expected, suicidal ideation was positively correlated with Stress ($r = .527$, $p < .01$) i.e., increased adolescents stress was associated with increased suicidal ideation. Whereas, Suicidal ideation was negatively correlated with all other variables, i.e. it is observed from Table 4.2 that adolescent suicidal ideation bears significant negative

relationship with optimism and perceived support from family, friends, significant others, and total support. These correlations are in the expected direction. Optimism is significantly positively related to social support dimensions, though the correlation is not very high. This finding supports the theory that optimists are more socially attractive than pessimists and consequently they are more likely to be integrated into supportive social networks and to receive favorable responses from their social environment (e.g. Scheier & Carver, 1987).

Perceived social support dimensions are also significantly correlated with each other and with global support. These correlations indicate that family support, friends support, and significant others' support dimensions measure relatively independent aspects of perceived global social support as all the dimensions have high correlation with global support score.

Table 4.3 presents correlations between demographic variables and study variables/psychological variables. An inspection of Table 4.3 reveals that though none of the correlations were very high, suicidal ideation was significantly positively related to family background (indicating high level of suicidal ideation among rural adolescent), negatively related to gender, percentage of marks in preceding Grade examination (PPGE), father's education and mothers education- indicating high level of suicidal ideation among male adolescents, adolescents who had secured lower percentage of marks in earlier Class, and whose father and mother were less educated.

Table 4.3

Correlations between Demographic Variables and Study Variables

Psychological Variables	Demographic Variables							
	Age	Gender[a]	PPGE	Father's Education[b]	Mother's Education[c]	Parants' Monthly Income	Family[d] (Joint/ Nuclear)	Family background[e] (Rural/Urban)
Suicidal ideation	.083	-.198**	-.219**	-.172**	-.108*	.058	.041	.106*
Stress	-.012	.080	-.041	-.025	-.009	.057	-.010	-.009
Optimism	.058	.134**	.231**	.160**	.162**	-.059	-.018	-.081
Family Support	-.069	.021	.233**	.104*	.064	.044	.019	-.061
Friends Support	-.022	.115*	-.029	.006	-.084	-.008	-.135**	-.096
Signi. Others Support	-.065	.073	.068	.050	.124*	.006	-.104*	-.135**
Global Support	-.069	.094	.112*	.068	.053	.017	-.103*	-.134**

Note. $^{*}p < .05$. $^{**}p < .01$.

[a] Gender (1 = Male, 2 = female), [b] Fathers' education (1 = Uneducated/Below High School, 2 = High School, 3 = Graduate, 4 = PG & Non Professional, 5 = PG & Professional), [c] Mother's Education (1 = Uneducated/Below High School, 2 = High School, 3 = Graduate, 4 = PG & Non Professional, 5 = PG & Professional), [d] Family (Nuclear = 1, Joint = 2), [e] Family background (Urban = 1, Rural = 2); PPGE= Percentage of marks in preceding Grade examination.

It is also observed from the Table 4.3 that stress was not significantly related to any of the demographic variables.

Gender, percentage of marks in preceding Grade examination, father's education, and mother's education were significantly positively related to optimism.

Percentage in preceding Grade examination and father's education were also significantly positively related to perceived family support.

Perceived friends support was significantly positively related to gender and significantly negatively correlated to family type, signifying high family support for female students and in nuclear families.

Perceived significant others support was positively related to mother's education. It was negatively related to family type and family background (adolescents from joint and rural families scored low on significant others support).

As far as global/total social support is concerned, Table 4.3 reveals that total social support was significantly positively related to percentage of marks in preceding grade examination, whereas it was negatively related to family type and family background- indicating low level of total perceived social support among joint family students and rural family students.

Age and gender differences on the major study variables were explored through independent samples t-tests.

Table 4.4

Gender Differences in the Study Variables

	Gender				t-value	95% CI
	Boys (N=200)		Girls (N=200)		(df=398)	(Lower,
	M	SD	M	SD		Upper)
Stress	77.985	21.753	81.670	24.034	-1.608	-8.191, .821
Optimism	14.420	2.896	15.170	2.668	-2.694**	-1.297, -.203
Family Support	23.000	4.057	23.165	3.674	-.426	-.926, .596
Friends Support	20.265	4.152	21.240	4.279	-2.312*	-1.804, -.146
Sig. Others Support	20.780	5.188	21.530	5.063	-1.46	-1.758, .258
Global Support	64.045	10.420	65.935	9.523	-1.894	-3.852, .072

Note. $*p < .05$, *two tailed;* $**p < .01$, *two tailed;* $***p < .001$.

Table 4.4 reflects the results of the t-test for examining the difference between male and female adolescents with regard to stress, optimism and perceived social support (i.e. support from family, friends, significant others, and total/global support). The results shown in Table 4.4 indicate that there were no significant gender differences in major study variables except on optimism and friends support. Furthermore, the mean score of optimism for boys (Mean = 14.420) was significantly lower as compared to girls (Mean = 15.170, t-value = -2.694, $p < .01$). Similarly, the mean score of friends support for boys (Mean=20.265) was significantly lower as compared to girls (Mean = 21.240, t-value = -2.312, $p < .05$).

Grade level was used as a proxy for age. Two age groups were developed: grades 9 and 10 (i.e. Secondary School Certificate Students [SSC]) and grades 11 and 12 (i.e. Senior Secondary School Certificate Students [SSSC]). Differences between these two groups are presented in Table 4.5.

Table 4.5

Mean differences between SS and SSS Students on the Study Variables

	Group				t-value (df=398)	95% CI (Lower, Upper)
	Secondary School Students		Senior Secondary School Students			
	M	SD	M	SD		
Stress	81.615	22.884	78.040	22.968	1.559	-.932, 8.082
Optimism	14.300	2.5162	15.290	2.993	-3.580***	-1.534, -.446
Family Support	22.670	3.750	23.495	3.946	-2.143*	-1.582, -.068
Friends Support	20.895	4.198	20.610	4.286	.672	-.549, 1.119
Sig. Others Support	21.265	4.492	21.045	5.713	.428	-.790, 1.230
Global/total Sup.	64.830	9.595	65.150	10.437	-.319	-2.291, 1.651

*Note. *p<0.05, two tailed; **p<0.01, two tailed; ***p < .001.*

As seen in Table 4.5, there were no significant age differences in major study variables except in optimism and family support. The mean score of optimism for Senior Secondary School Students (SSSC; Mean = 15.290) was significantly higher than that of Secondary School Students (SSC; Mean = 14.300, t-value = -3.580, $p < .001$). Similarly, the mean score of family support for SSS Students (Mean = 23.495) was significantly higher than that of SS Students (Mean = 22.670, t-value = -2.143, $p < .05$).

The investigator divided the total sample as 'low and/or non ideators' and 'high ideators' using the criteria adopted by Schotte and Clum[1] (1982) and compared the two groups on study variables. The results are depicted in Table 4.6.

[1]Score 10 and above were considered as high ideators, score 1-6 were considered as low ideators, and 0 as non ideators (Schotte & Clum, 1982; pp. 692-693).

Table 4.6

Mean differences between High Suicidal Ideation and Low Suicidal Ideation groups on different Study Variables

Study Variables	Group				t-value (df=320)	95% CI (Lower, Upper)
	Low and non Suicidal Ideation (N=113)		High Suicidal Ideation (N=209)			
	M	SD	M	SD		
Stress	65.973	22.487	89.579	18.434	-10.135***	-28.188, -19.023
Optimism	16.522	2.315	13.249	2.399	11.829***	2.729, 3.818
Family Support	24.947	2.964	21.335	3.916	8.565***	2.782, 4.442
Friends Support	21.965	4.155	19.766	3.990	4.652***	1.269, 3.129
Sig. Others Sup.	21.938	5.212	20.306	5.149	2.703**	.444, 2.820
Global/total Sup.	68.850	9.447	61.407	9.315	6.809***	5.292, 9.593

Note. $*p < 0.05$, *two tailed;* $**p < 0.01$, *two tailed;* $***p < .001$. Sig. Others Sup. = Significant Others Support, Global/total Sup. = Global/total Support.

In all these comparisons it is clear that high ideators scored higher on the risk factor (i.e. stress) and lower on protective factors (e.g., optimism and perceived social support).

Using the same criteria the investigator also compared the percentage of cases falling in each category of low and high ideators. The values are set in Table 4.7.

Table 4.7

Prevalence and level of suicidal ideation among adolescents

Group	N	Suicidal Ideation (%)	
		Low and Non ideators	High Ideators
Total	400	28.2%	52.2%
Boys	200	19%	58.5%
Girls	200	37.5%	47%
SS (younger) students	200	20.5%	58%
SSS (older) students	200	36%	47%
SS Boys	100	15%	66%
SS Girls	100	26%	55%
SSS Boys	100	23%	54%
SSS Girls	100	49%	39%

It is revealed that the highest percentage of SS boys and lowest percentage of SSS girls fell in the high ideator group.

Impact of Gender and Age on Suicidal Ideation

2 X 2 ANOVA was also performed to examine the independent and interactional effect of gender and age on suicidal ideation. The results of ANOVA are set in Table 4.8.

Table 4.8

Summary of ANOVA for Main and Interaction Effect of Gender and Age

Sources of Variation	SS	Df	MS	F
Gender	504.003	1	504.003	16.373**
Age (Grade)	55.502	1	55.502	1.803
Gender X Age (Grade)	124.322	1	124.322	4.039*
Error	12190.110	396	30.783	

*Note.**p < .05 **p < .01, N = 400

The results of the two-way ANOVA shows significant main effects of gender on suicidal ideation, $F(1,396) = 16.373$, $p < .01$. Male students (Mean = 11.635, SD = 5.517) scored significantly higher as compared to female students (Mean = 9.390, SD = 5.633). Though the impact of age was not significant, the interaction effect of gender and age was found to be significant at .05 level. Figure 5 depicts how gender interacts with age in explaining suicidal ideation.

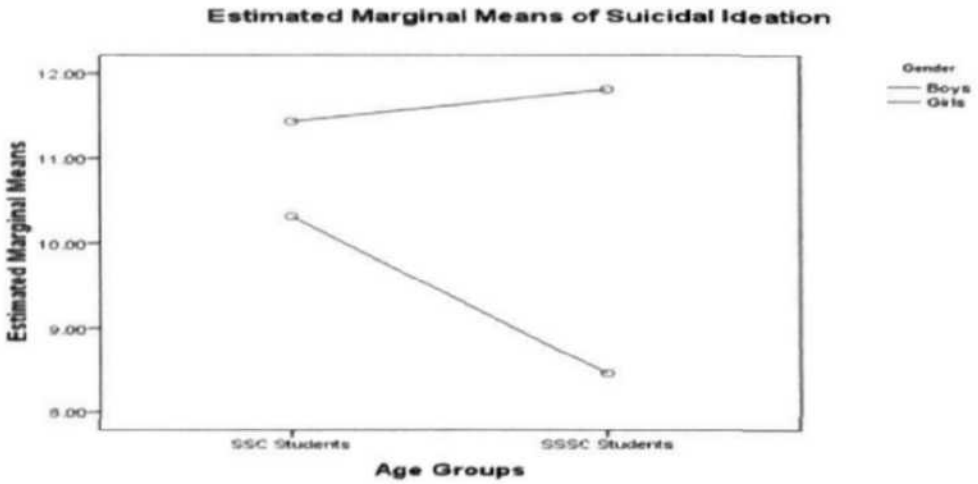

Figure 5. Interactional effect of Gender X Age on Suicidal Ideation.

It is clearly observed that SS girls and SSS boys scored significantly higher as compared to SSS girls ($t = 2.362$, $p < .05$, and $t = 3.983$, $p < .001$, respectively). Mean and SD of these groups are provided in Table 4.9 for a perusal.

Table 4.9

Mean and SD of Secondary School and Senior Secondary School Male and Female Students on suicidal ideation

	SS (younger) girls	SS (younger) boys	SSS (older) girls	SSS (older) boys
Mean	10.320	11.450	8.460	11.820
SD	5.222	4.969	5.895	6.034
N	100	100	100	100

Hypothesis 1 which stated that female students will score significantly higher as compared to male students was not supported by the results of the present investigation. Rather, reverse findings were obtained. Our second hypothesis was the null hypothesis and stated that there will no significant difference between SS and SSS students on suicidal ideation. This hypothesis was accepted as no significant difference could be obtained for these groups. However age interacted with gender to significantly influence suicidal ideation.

Results of Hierarchical Regression Analyses

Hierarchical regression analyses were performed to examine the predictive utility of stress (as measured by Student Stress Scale), optimism, perceived social support from family, friends and significant others in predicting suicidal ideation. Consistent with Cohen and Cohen (1983), all variables within a given set were entered simultaneously. For the first step, demographic variables (viz., gender, percentage of marks in preceding grade examination, and father's education) were entered into the regression equation. The

inclusion of the main-effect of stress and optimism were involved in the second and third steps respectively, and in the Step four were included jointly the three main-effect variables—viz., perceived social support from Family, Friends, and Significant others. As all the dimensions of social support were considered separately and Global/total support score was skipped from the analyses. The last and final step involved the interactions of Stress X Optimism, Stress X Family support, Stress X Friends support, and Stress X Significant others support. This procedure allowed the separate analyses of the independent contributions of demographic variables, stress, optimism, social support from family, friends and significant others and the interactions between stress and the moderating variables. Results of these analyses are presented in Tables 4.10 through 4.14.

The results of the hierarchical regression analysis for the total sample are set in Table 4.10. In the first step the block of demographic variables (i.e. gender, percentage in preceding grade examination, and father's education) was entered. Noteworthy, gender (β = -.176, t- value = -3.696, $p < .001$), percentage in preceding grade examination (β = -.178, t- value = -3.599, $p < .001$), and father's education (β = -.116, t- value = -2.338, $p <$ .05) were found to be significant predictors of suicidal ideation, as demonstrated in step 1. These variables accounted for a significant 9.4% (R^2 = .094, F = 13.672, $p < .001$) of the variance in suicidal ideation, gender being the consistent predictor in all the five steps of analysis. The effect of these variables was, thus, controlled for further analysis.

Table 4.10

Hierarchical Multiple Regression analysis for Total sample (N = 400).

Variables	Step1 β	Step2 β	Step3 β	Step4 β	Step5 β
Gender[a]	-.177***	-.223***	-.168***	-.161***	-.166***
PPGE	-.178***	-.155***	-.076*	-.044	-.047
Father's Educ.[b]	-.116*	-.104*	-.063	-.059	-.059
Stress		.536***	.448***	.408***	.431***
Optimism			-.420***	-.341***	-.353***
Fam. Sup.				-.221***	-.203***
Fr. Sup.				-.070	-.081*
Sig. Sup.				-.048	-.056
Stress X Opt.					-.093**
Strs X Fm. Sup.					-.098**
Strs X Fr. Sup.					-.006
Strs X Sig. Sup.					-.056
Constant	22.417***	11.551***	21.176***	28.834***	28.504***
R	.306	.615	.730	.773	.794
R^2	.094	.379	.534	.598	.631
ΔR^2	.094	.285	.155	.064	.033
F change	13.672***	180.947***	131.012***	20.885***	8.570***
F	13.672***	60.150***	90.161***	72.714***	55.087***

Note. β = Standardized regression coefficient. ***$p < .001$, **$p < .01$, *$p < .05$; [a]Gender (1 = Male, 2 = female), [b]Father's education (1 = Uneducated/Below High School, 2 = High School, 3 = Graduate, 4 = PG & Non Professional, 5 = PG & Professional); PPGE= Percentage of marks in preceding Grade examination, Fm. Sup. = Family support, Fr. Sup. = Friends support, Sig. Sup. = Significant others support, Opt. = Optimism, Strs = Stress.

After controlling for demographic variables Stress was entered at step 2. The main effect of stress was found to be significant beyond 0.1% level (β = .536, t- value = 13.452, $p < .001$). There was a substantial increase of .285 in R^2 (F-change = 180.817, $p < .001$), indicating the unique contribution of stress (after controlling for demographic variables) in explaining variance in suicidal ideation to be as much as 28.5%. Adding optimism at step 3 added significantly to the variance accounted for and explained an additional 15.5% of the variance (F-change = 131.012, $p < .001$), significantly improving the prediction of suicide ideation above and beyond the contribution of the demographic variables and stress. Optimism was, however, a strong negative predictor of suicidal ideation (β = -.420, t- value = -11.446, $p < .001$). The entry of the fourth block of variables (social support from family, friends, and significant others) in step 4, added relatively little but significantly (ΔR^2 = .064, F-change = 20.885, $p < .001$) to the variance accounted for in the severity of suicidal ideation bringing the total proportion of explained variance to 59.8%. However, it is noteworthy that the main effect of only family support was significant (β = -.221, t- value = -5.840, p = .000) with lower family support predicting high suicidal ideation (Table 4.10). Friends and significant others support did not contribute significantly to the prediction of suicidal ideation.

The prediction of suicidal ideation was also significantly enhanced with addition of the interaction terms of Stress X Optimism, Stress X Family support, Stress X Friends support, and Stress X Significant others support (ΔR^2 = .033, F-change = 8.570, $p < .001$), indicating that the nature of relationship between stress and suicidal ideation varied as a function of the optimism, family support, friend support, and significant others support scores. As can be seen from β values in Table 4.10, only the Stress X Optimism

and Stress X Family support interactions made a significant contribution to the prediction of suicidal ideation (β = -.093, t- value = -2.674, p = .008 and β = -.098, t- value = -2.763, p = .006, respectively). The significant interactions support the moderating role of optimism and social support in the relationship between stress and suicidal ideation.

If a theory predicts that the X–Y causal effect varies with the moderator, understanding and interpreting the causal effect would focus on how the moderator impacts the X–Y causal relationship. This is achieved by plotting the regression of Y on X at each level of a categorical moderator called simple main effects (i.e., difference in group means) or at meaningful cut-off points (e.g., ± 1*SD) of a continuous moderator, called simple regression slopes (Cohen, Cohen, West, & Aiken, 2003; Holmbeck, 2002). Based on Holmbeck (2002), all significant interactions were examined further to determine the nature of the moderating effect.

Significant moderating effects were probed and plotted through simple slopes by using Aiken and West (1991) and Holmbeck's (2002) approach. These interactions were probed post-hoc using simple slope analysis to determine whether either slope significantly differed from zero. Significant interaction effects were probed by computing conditional moderator variables. Post hoc regressions were run with these conditional variables to compute simple slopes of the conditional effects of stress on suicidal ideation for each level of moderator variable i.e. at one standard deviation above the mean (+1SD) and one standard deviation below the mean (-1SD; e.g., high optimism, low optimism). Because predictor and moderator variables are centered before computing regressions, the mean is always zero. In order to examine a significant interaction effect, the unstandardized regression coefficients were utilized to construct a prediction equation.

Regression lines were calculated at plus-and-minus one standard deviation of the stress, and then plotted to examine the slope of the association between stress and suicidal ideation within each level of moderator variable i.e. high and low levels.

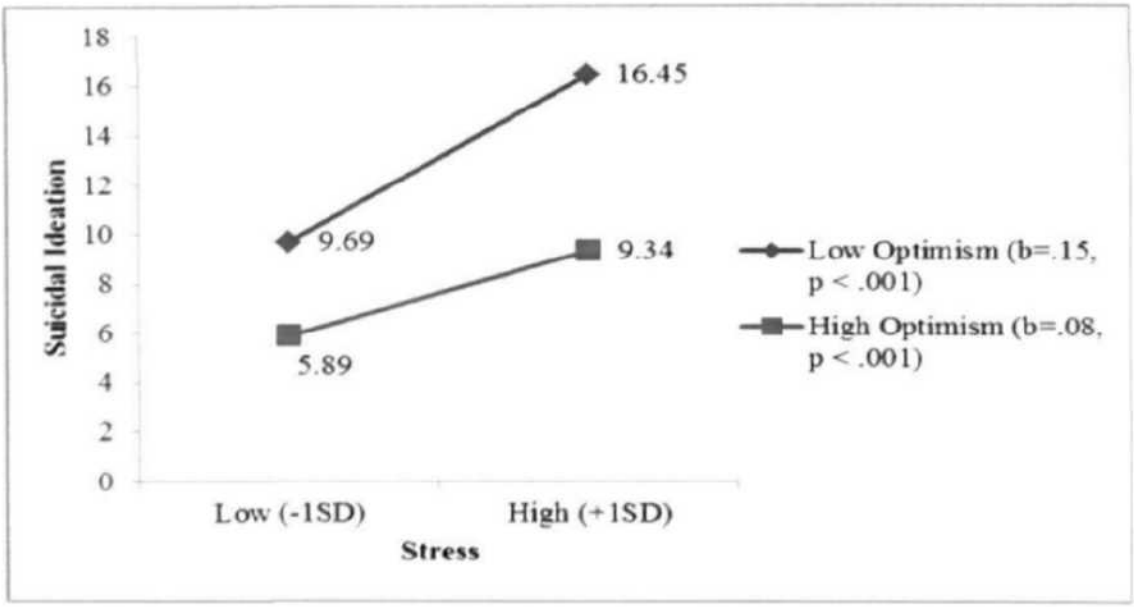

Figure 6. Plot of significant moderating effect in analysis of Stress X Optimism predicting suicidal ideation for total sample.

The interaction between optimism and stress is displayed graphically[1] in Figure 6. Post hoc probing of the simple slopes revealed significant relationships between stress and suicidal ideation in both high (b = .075, $t = 6.281$, $p < .001$) and low optimism (b = .146, $t = 10.590$, $p < .001$) conditions. In other words, with respect to the regression of

[1] According to Fairchild and McQuillin, in general, moderator effects are one of two types: ordinal or disordinal interactions (Cohen et al., 2003). In plots of the data, ordinal interactions are illustrated by lines that do not cross one another in the plot, whereas disordinal interactions are illustrated by lines that do cross in the plot. Ordinal interactions may be of two subtypes. A synergistic interaction effect occurs when a change in the level of the moderator variable enhances the bivariate relation between X and Y (Cohen et al., 2003). A buffering interaction effect occurs when a change in the level of the moderator variable reduces the magnitude of the bivariate relation between X and Y (Fairchild & McQuillin, 2010).

suicidal ideation on stress (Figure 6), results of post hoc probing revealed that the simple slopes for 1 SD below the mean and 1 SD above the mean of optimism were all significantly different from zero. The results of probing the interaction between stress and optimism to predict suicidal ideation, suggest a buffering effect. More specifically, students with high optimism were buffered against the effects of stress and reported the lowest level of suicidal ideation. In addition, using procedures outlined by Aiken and West (1991) for determining differences between simple slopes, the slope for low optimists (pessimists) was found to be significantly steeper than the slope for high optimists, $t(396) = -3.802$, $p < .001$. In other words, Low optimists (pessimists) as compared to high optimists had higher increase in suicidal ideation under high stress condition.

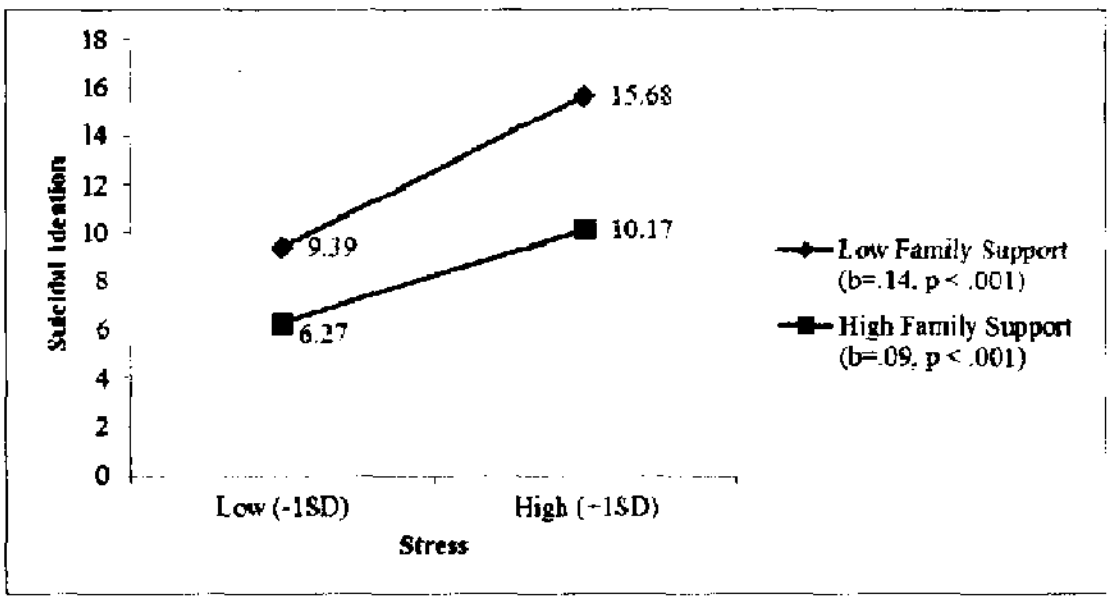

Figure 7. Plot of significant moderating effect in analysis of Stress X Perceived Social Support (Family) predicting suicidal ideation for total sample.

Figure 7 shows the interaction between Family Support and Stress in the prediction of Suicidal Ideation scores. Results of post hoc probing revealed that both the regression lines i.e. for high family support (b = .085, t = 6.238, p < .001) and the low family support (b = .137, t = 9.072, p < .001) were significantly different from zero. The figure shows, there was a significant positive relation between stress and suicidal ideation at both high and low levels of family support. However, the beta value (showing the regression of suicidal ideation on stress) for high family support is lesser than that for the low family support group. In other words, the slope for low family support was found to be significantly sharper than the slope for high family support, $t(396) = -2.466$, $p < .05$.

If we look at the results of the regression analysis in the light of the hypotheses formulated for the present study, it is revealed that the **third hypothesis** is proved to be true, as stress emerged as significant positive predictor (β = .536, t-value = 13.452, sig. p < .001) of suicidal ideation and accounted for the largest variance in suicidal ideation.

Our **fourth hypothesis** which stated that optimism will have negative predictive relationship with suicidal ideation and **fifth hypotheses** (which stated that social support will significantly negatively predict suicidal ideation) also happened to be true, but all the dimensions of social support (i.e. family, friends, and significant others support) did not emerge equally useful predictors. **Hypothesis 5.1** proved to be true as family support emerged as significant predictor of suicidal ideation. **Hypothesis 5.2 and 5.3** were not confirmed.

Our **sixth hypothesis** stated that optimism would moderate the relationship between stress and suicidal ideation. This hypothesis was confirmed as interactional effect of Stress X Optimism was significant.

Our **seventh hypothesis** stated that social support (from family, peers and significant others) will moderate the relationship between adolescent stress and suicidal ideation. Results reveal that our seventh hypothesis was partially confirmed as interaction terms emerged as significant predictors of suicidal ideation. But all the dimensions of social support were not found to have equally useful effect on the relationship between stress and suicidal ideation. Only one out of three dimensions of social support i.e. family support emerged as significant moderator of the relationship between adolescent stress and suicidal ideation.

Similarly, hierarchical regression analysis was also performed for boys and girls samples, separately.

The results of the analysis for boys sample are set in Table 4.11. In the first step the block of demographic variables (i.e. percentage in preceding grade examination and father's education) was entered. Noteworthy, percentage of marks in preceding Grade examination and father's education (β = -.195, t- value = -2.775, $p < .01$ and β =-.233, t- value = -3.327, $p < .001$, respectively) were found to be significant predictors of suicidal ideation, as demonstrated in step 1. Demographic variables accounted for a significant 12% (R^2 = .120, F = 13.389, $p < .001$) of the variance in suicidal ideation, Father's Education being the consistent predictor in all the five steps of analysis. The effect of these variables was, thus, controlled for further analysis.

Table 4.11

Hierarchical Multiple Regression analysis for Boys (N = 200).

Variables	Step1 β	Step2 β	Step3 β	Step4 β	Step5 β
PPGE	-.195**	-.186**	-.123*	-.121*	-.126**
Father's Educ.[a]	-.233***	-.201***	-.132**	-.122*	-.109*
Stress		.481***	.395***	.383***	.447***
Optimism			-.483***	-.413***	-.441***
Fam. Sup.				-.068	-.064
Fr. Sup.				-.082	-.082
Sig. Sup.				-.086	-.105*
Stress X Opt.					-.194***
Strs X Fm. Sup.					-.076
Strs X Fr. Sup.					.036
Strs X Sig. Sup.					-.091
Constant	22.177***	11.841***	23.468***	27.822***	27.207***
R	.346	.591	.750	.768	.809
R^2	.120	.349	.562	.590	.655
ΔR^2	.120	.230	.213	.028	.065
F change	13.389***	69.197***	94.896***	4.352**	8.807***
F	13.389***	35.082***	62.640***	39.506***	32.431***

Note. β = Standardized regression coefficient. ***$p < .001$, **$p < .01$, *$p < .05$; [a]Father's education (1 = Uneducated/Below High School, 2 = High School, 3 = Graduate, 4 = PG & Non Professional, 5 = PG & Professional); PPGE = Percentage of marks in preceding Grade examination, Fm. Sup. = Family support, Fr. Sup. = Friends support, Sig. Sup. = Significant others support, Opt. = Optimism, Strs = Stress.

After controlling for demographic variables Stress was entered at step 2. The main effect of stress was found to be significant beyond 0.1% level (β = .481, t- value = 8.318, $p < .001$). There was a substantial increase of .230 in R^2 (F-change = 69.197, $p < .001$), indicating the unique contribution of stress in explaining variance in suicidal ideation to be as much as 23%. Entering optimism at step 3 added significantly to the variance accounted for and explained an additional 21.3% of the variance (ΔR^2 = .213, F-change = 94.896, $p < .001$), significantly improving the prediction of suicide ideation above and beyond the contribution of the demographic variables and stress. Optimism was, however, a strong negative predictor of boys' suicidal ideation (β = -.483, t- value = -9.741, $p < .001$). The entry of the third block of variables (social support from family, friends, and significant others) in step 4, added relatively little but significantly (ΔR^2 = .028, F-change = 4.352, $p < .01$) to the variance accounted for in the severity of suicidal ideation bringing the proportion of explained variance to 59%. However, beta values show that the independent contribution of family, friends, and significant others support was not significant.

Lastly, at step 5, the prediction of suicidal ideation was also enhanced with addition of the interaction terms of Stress X Optimism, Stress X Family support, Stress X Friends support, and Stress X Significant others support (ΔR^2 = .065, F-change=8.807, $p < .001$), indicating that the nature of relationship between stress and suicidal ideation varied as a function of the optimism, family support, friend support, and significant others support scores. As can be seen from β values in Table 4.11, only the Stress X Optimism interaction made a significant contribution to the prediction of suicidal ideation (β = -.194, t- value = -3.839, p = .000). The significant interaction supports the

moderating role of optimism in the relationship between stress and suicidal ideation in boys. The results of the post hoc analyses are depicted in Figure 8.

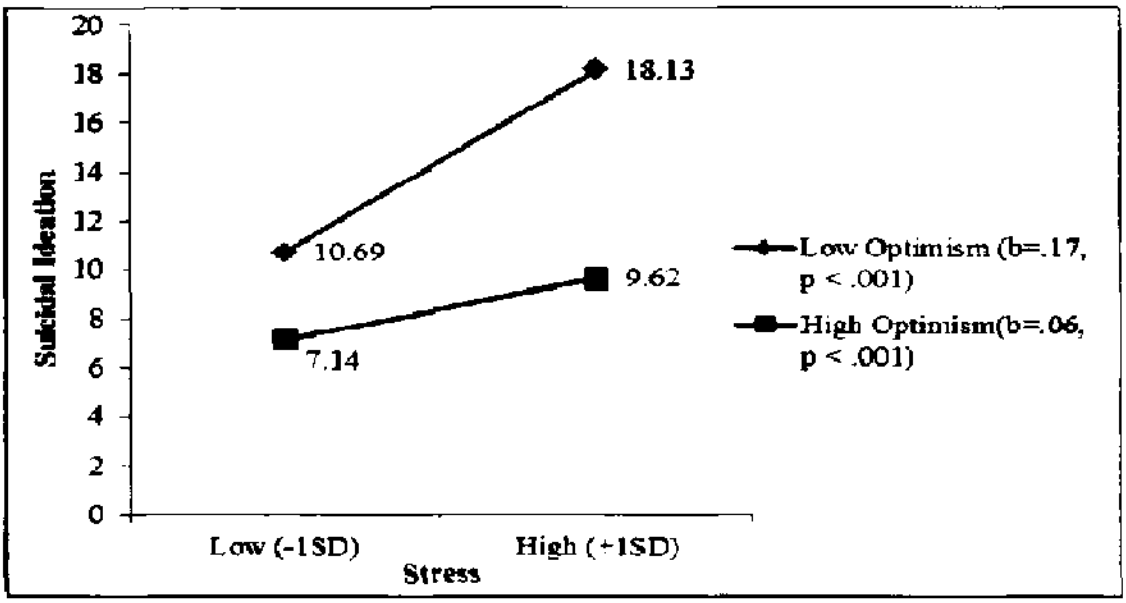

Figure 8. Plot of significant moderating effect in analysis of Stress X Optimism predicting suicidal ideation for boys.

To examine the nature of above significant interactions, post hoc statistical testing was conducted and simple slopes were plotted using the same procedures as used for total sample. Figure 8 reveals that the slope for boys with lower optimism (b =.171, t = 8.760, $p < .001$) and higher optimism (b = .057, t = 3.698, $p < .001$) significantly differed from zero. Overall, the significant interaction terms signify that the regression of suicidal ideation on stress vary across the range of optimism (t = -4.547, $p < .001$). More specifically, the predicted values of suicidal ideation in the graph show that at low level of stress, individuals with low optimism have an increased likelihood of suicidal ideation as compared to individuals with high optimism. As stress increases risk for suicidal thoughts also increases for individuals at both levels of optimism, although the low optimist group is at the greatest risk.

Table 4.12

Hierarchical Multiple Regression analysis for Girls (N = 200).

Variables	Step1 β	Step2 β	Step3 β	Step4 β	Step5 β
PPGE	-.151*	-.114*	-.021	.034	.031
Father's Educ.[a]	.015	.002	.023	.018	.018
Stress		.598***	.510***	.425***	.428***
Optimism			-.364***	-.298***	-.297***
Fam. Sup.				-.366***	-.342***
Fr. Sup.				-.058	-.071
Sig. Sup.				-.026	-.027
Stress X Opt.					-.031
Strs X Fm. Sup.					-.089
Strs X Fr. Sup.					-.039
Strs X Sig. Sup.					-.009
Constant	15.091***	2.474	11.632***	24.276***	23.616***
R	.149	.615	.702	.792	.801
R^2	.022	.378	.492	.628	.642
ΔR^2	.022	.356	.114	.135	.014
F change	2.243	112.144***	43.890***	23.221***	1.897
F	2.243	39.720***	47.281***	46.207***	30.644***

Note. β = Standardized regression coefficient. ***$p < .001$, **$p < .01$, *$p < .05$; [a]Father's education (1 = Uneducated/Below High School, 2 = High School, 3 = Graduate, 4 = PG & Non Professional, 5 = PG & Professional); PPGE = Percentage of marks in preceding Grade examination, Fm. Sup. = Family support, Fr. Sup. = Friends support, Sig. Sup. = Significant others support, Opt. = Optimism, Strs = Stress.

The results of the hierarchical regression analysis for girls sample are set in Table 4.12. Again, in the first step the block of demographic variables (i.e. percentage of marks in preceding grade examination and father's education) was entered. Noteworthy, marks percentage in preceding grade examination (β = -.151, t- value = -2.114, $p < .05$) was found to be significant predictor of suicidal ideation, as demonstrated in step 1. Demographic variables accounted for a 2.2% (R^2 = .022, F = 2.243, p = 0.109) of the variance in suicidal ideation, but it was not significant. However, the effect of these demographic variables was controlled for the analysis.

After controlling for demographic variables, Stress was entered at step 2. The main effect of stress was found to be significant beyond 0.1% level (β = .598, t- value = 10.590, $p < .001$). There was a substantial increase of .356 in R^2 (F-change = 112.144, $p < .001$), indicating the unique contribution of stress in explaining variance in suicidal ideation to be as much as 35.6%. Entering optimism at step 3 added significantly to the variance accounted for and explained an additional 11.4% of the variance (ΔR^2 = .114, F-change = 43.890, $p < .001$), significantly improving the prediction of suicide ideation above and beyond the contribution of the demographic variables and stress. Optimism was a significant negative predictor of girls' suicidal ideation (β = -.364, t- value = -6.625, $p < .001$). The entry of the third block of variables (social support from family, friends, and significant others) in step 4, added 13.5% of the total proportion of explained variance (ΔR^2 = .135, F-change = 23.221, $p < .001$) accounted for in the severity of suicidal ideation. It is noteworthy that the family support was a strong negative predictor of suicidal ideation in girls (β = -.366, t- value = -7.322, $p < .001$) with lower family support predicting higher suicidal ideation. However, the main effect of friends and

significant others support did not contribute significantly to the prediction of suicidal ideation in girls (Table 4.12).

In fifth and final block, the prediction of suicidal ideatinn was marginally enhanced with addition of the interaction terms of Stress X Optimism, Stress X Family support, Stress X Friends support, and Stress X Significant others support and did not add significantly to the amount of variance accounted for in suicidal ideation ($\Delta R^2 = .014$, F-change = 1.897, $p = .113$). As can be seen from β values in Table 4.12, none of the interactions (Stress X Optimism, Stress X Family support, Stress X Friends support, and Stress X Significant others support) made a significant contribution to the prediction of suicidal ideation in girls (Table 4.12). The insignificant interactions did nnt support the moderating role of optimism and social support in the relationship between stress and suicidal ideation among girls.

Our **eighth hypothesis** stated that predictors of suicidal ideation for boys and girls will be different. A careful analysis of the results reveals that our eighth hypothesis is partially confirmed. A comparison of the results for boys and girls is provided in the following paragraphs.

Demographic variables were found to account for a significant 12% of the variance in suicidal ideation in boys and only 2.2% of the variance in girls. Boys with lower levels of father's education showed more suicidal ideation whereas, for girls father's education did not significantly contribute to suicidal ideation. However, boys and girls with lower percentage of marks in preceding grade examination were equally likely to show more suicidal ideation.

Stress had significant positive predictive relationship whereas optimism had negative predictive relationship with suicidal ideation for both boys and girls.

Social support from family, friends, and significant others as predictors of suicidal ideation did not reveal significant contribution for boys (Table 4.11), whereas, for girls perceived social support from family added significantly to the prediction of suicidal ideation (β = -.366, t-value = -7.322, $p < .001$), with lower family support predicting more suicidal ideation (Table 4.12).

For boys, interaction between stress and optimism added significantly to the prediction of suicidal ideation, suggesting that optimism did moderate the relation between stress and suicidal ideation (Table 4.11). However, in girls, none of the interaction terms added significantly to the prediction of suicidal ideation (Table 4.12).

Again, hierarchical regression analysis was performed for secondary school adolescents and senior secondary adolescents separately (Table 4.13 and 4.14).

The results of the hierarchical regression analysis for the secondary school adolescents sample (n = 200, mean age = 14.915) are set in Table 4.13. In the first step the block of demographic variables (i.e. gender, percentage in preceding grade examination, and father's education) was entered. None of the demographic variables was significant (see Step 1, Table 4.13).

Table 4.13

Hierarchical Multiple Regression analysis for Secondary School Students (N = 200).

Variables	Step1 β	Step2 β	Step3 β	Step4 β	Step5 β
Gender[a]	-.119	-.177**	-.108*	-.101*	-.109*
PPGE	-.082	-.058	.009	.053	.055
Father's Educ.[b]	.026	.004	.039	.037	.037
Stress		.548***	.428***	.397***	.433***
Optimism			-.475***	-.366***	-.386***
Fam. Sup.				-.279***	-.273***
Fr. Sup.				-.083	-.082
Sig. Sup.				-.003	-.017
Stress X Opt.					-.113*
Strs X Fm. Sup.					-.084
Strs X Fr. Sup.					.007
Strs X Sig. Sup.					-.021
Constant	15.091***	5.530	17.469***	24.119***	23.947***
R	.139	.561	.720	.777	.794
R^2	.019	.315	.519	.603	.631
ΔR^2	.019	.296	.204	.085	.028
F change	1.288	84.214***	82.064***	13.569***	3.536**
F	1.288	22.430***	41.816***	36.303***	26.666***

Note. β = Standardized regression coefficient. ***$p < .001$, **$p < .01$, *$p < .05$; [a]Gender (1 = Male, 2 = female), [b] Fathers' education (1 = Uneducated/Below High School, 2 = High School, 3 = Graduate, 4 = PG & Non Professional, 5 = PG & Professional); PPGE = Percentage of marks in preceding Grade examination, Fm. Sup. = Family support, Fr. Sup. = Friends support, Sig. Sup. = Significant others support, Opt. = Optimism, Strs = Stress.

After controlling for demographic variables Stress was entered at step 2. The main effect of stress was found to be significant beyond 0.1% level (β = .548, t-value = 9.177, p < .001). There was a substantial increase of .296 in R^2 (F-change = 84.214, p < .001), indicating the unique contribution of stress in explaining variance in suicidal ideation to be as much as 29.6%. Adding optimism at step 3 increased significantly the variance accounted for and explained an additional 20.4% of the variance (ΔR^2 = .204, F-change = 82.064, p < .001), significantly improving the prediction of suicide ideation above and beyond the contribution of the demographic variables and stress. Optimism was, however, a strong negative predictor of suicidal ideation (β = -.475, t-value = -9.059, p < .001). The entry of the third block of variables (social support from family, friends, and significant others) in step 4, added relatively little but significantly (ΔR^2 = .085, F-change = 13.569, p < .001) to the variance accounted for in the severity of suicidal ideation bringing the proportion of explained variance to 60.3%. However, it is noteworthy that the main effect of only family support was significant (β =-.279, t-value= -5.109, p = .000) with lower family support predicting higher suicidal ideation (Table 4.13). Friends and significant others support did not contribute significantly to the prediction of suicidal ideation among this group.

The prediction of suicidal ideation was enhanced further with the addition of the interaction terms of Stress X Optimism, Stress X Family support, Stress X Friends support, and Stress X Significant others support (ΔR^2 =.028, F-change = 3.536, p < .01), indicating that the nature of relationship between stress and suicidal ideation varied as a function of the optimism, family support, friends support, and significant others support scores. As can be seen from β values in Table 4.13, only the Stress X Optimism

interaction made a significant negative contribution to the prediction of suicidal ideation (β = -.113, t-value = -2.134, p = .034). The significant interaction supports the moderating role of optimism in the relationship between stress and suicidal ideation in secondary school students. Figure 9 shows the results of the post hoc analysis.

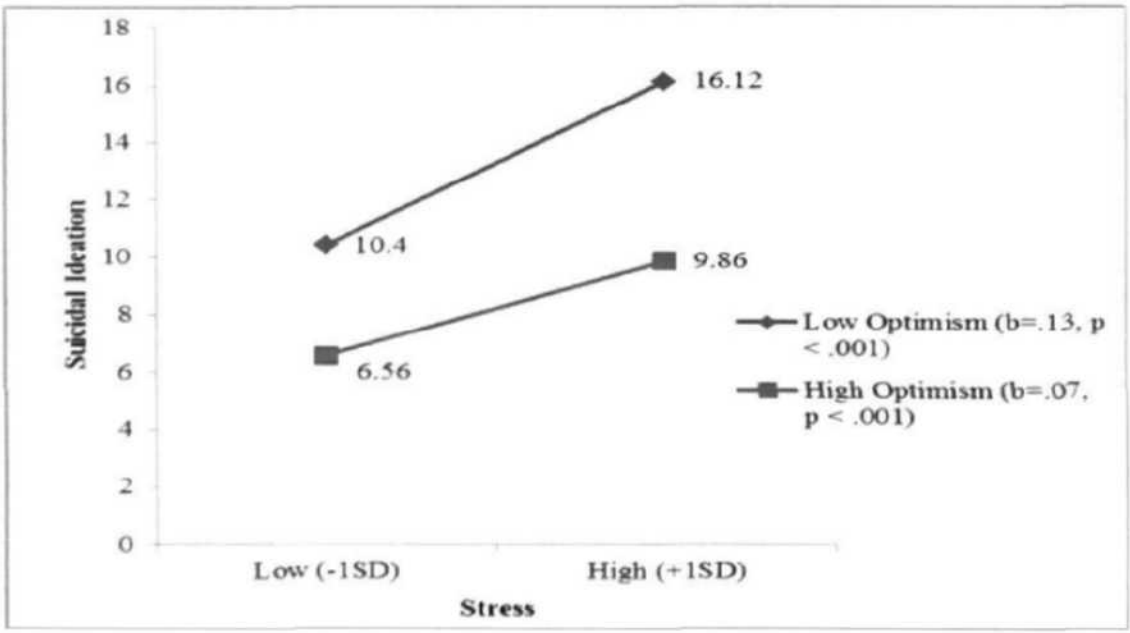

Figure 9. Plot of significant moderating effect in analysis of Stress X Optimism predicting suicidal ideation for Secondary School students.

The figure illustrates the above interaction to assist in understanding the nature of this relationship. From Figure 9 it can be seen that there is significant relationship between stress and suicidal ideation in both high and low optimism conditions. However, as stress increased the increase in suicidal ideation was greater among the students who scored low on optimism (b = .125, t = 7.191, p < .001) compared to those who scored high on optimism (b = .072, t = 5.028, p < .001). The slope for low optimists (pessimists) was found to be significantly sharper than the slope for high optimists, t = -2.463, p < .05.

When optimism is low, the predicted value of suicidal ideation is significantly higher than when optimism is high.

The results of the hierarchical regression analysis for the senior secondary adolescents sample (n = 200, mean age = 16.965) are set in Table 4.14. In the first step the block of demographic variables (i.e. gender, percentage in preceding grade examination, and father's education) was entered. Noteworthy, gender (β = -.162, t-value = -2.355, $p < .05$), percentage of marks in preceding grade examination (PPGE; β = -.229, t-value = -3.172, $p < .01$), and father's education (β = -.174, t-value = -2.417, $p < .05$) were found to be significant predictors of suicidal ideation, as demonstrated in step 1. These variables accounted for a significant 17.6% (R^2 = .176, F = 13.985, $p < .001$) of the variance in suicidal ideation, gender and father's education being the consistent predictor in all the five steps of analysis. The effect of these demographic variables was, thus, statistically controlled by entering them in the first step.

Table 4.14

Hierarchical Multiple Regression analysis for Senior Secondary School Students (N = 200).

Variables	Step1 β	Step2 β	Step3 β	Step4 β	Step5 β
Gender[a]	-.162*	-.203***	-.165***	-.162***	-.163***
PPGE	-.229**	-.213***	-.113*	-.084	-.093
Father's Educ[b]	-.174*	-.145*	-.120*	-.108*	-.105*
Stress		.521***	.460***	.415***	.427***
Optimism			-.381***	-.327***	-.329***
Fam. Sup.				-.194***	-.159**
Fr. Sup.				-.046	-.068
Sig. Sup.				-.063	-.071
Stress X Opt.					-.102*
Strs X Fm. Sup.					-.110*
Strs X Fr. Sup.					-.012
Strs X Sig. Sup.					-.063
Constant	25.561***	14.179***	22.404***	30.149***	29.496***
R	.420	.667	.755	.787	.812
R^2	.176	.445	.569	.620	.660
ΔR^2	.176	.269	.124	.050	.040
F change	13.985***	94.487***	56.010***	8.415***	5.510***
F	13.985***	39.113***	51.320***	38.908***	30.226***

Note. β = Standardized regression coefficient. ***$p < .001$. **$p < .01$. *$p < .05$; [a]Gender (1 = Male, 2 = female), [b] Fathers' education (1 = Uneducated/Below High School, 2 = High School, 3 = Graduate, 4 = PG & Non Professional, 5 = PG & Professional); PPGE = Percentage of marks in preceding Grade examination, Fm. Sup. = Family support, Fr. Sup. = Friends support, Sig. Sup. = Significant others support, Opt. = Optimism, Strs = Stress.

After controlling for demographic variables Stress was entered at step 2. The main effect of stress was found to be significant beyond 0.1% level (β = .521, t-value = 9.720, p < .001). There was a substantial increase of .269 in R^2 (F-change = 94.487, p < .001), indicating the unique contribution of stress in explaining variance in suicidal ideation to be as much as 26.9%. Adding optimism at step 3 added significantly to the variance accounted for and explained an additional 12.4% of the variance (F-change = 56.010, p < .001), significantly improving the prediction of suicide ideation above and beyond the contribution of the demographic variables and stress. Optimism was, however, a strong negative predictor of suicidal ideation (β = -.381, t-value= -7.484, p < .001). The entry of the third block of variables (social support from family, friends, and significant others) in step 4, added relatively little but significantly (ΔR^2 = .050, F-change = 8.415, p < .001) to the variance accounted for in the severity of suicidal ideation bringing the proportion of explained variance to 62%. However, it is noteworthy that the main effect of only family support was significant (β = -.194, t-value = -3.703, p =.000) with lower family support predicting higher suicidal ideation (Table 4.14). Friends and significant others support did not contribute significantly to the prediction of suicidal ideation.

The prediction of suicidal ideation was also enhanced with the addition of the interaction terms of Stress X Optimism, Stress X Family support, Stress X Friends support, and Stress X Significant others support (ΔR^2 = .040, F-change = 5.510, p < .001), bringing the total variance explained to 66% (R^2 = .660, F = 30.226, p < .001). These findings indicated that the nature of relationship between stress and suicidal ideation varied as a function of the optimism, family support, friend support, and significant others support scores. As can be seen from β values in Table 4.14, only the

Stress X Optimism and Stress X Family support interactions made significant contribution to the prediction of suicidal ideation (β = -.102, t-value = -2.148, p = .033 and β = -.110, t-value = -2.232 p = .027, respectively). The significant interactions support the moderating role of optimism and family support in the relation between stress and suicidal ideation in senior secondary adolescents. The nature of the significant two-way interactions are investigated and graphically displayed in Figure 10 and Figure 11.

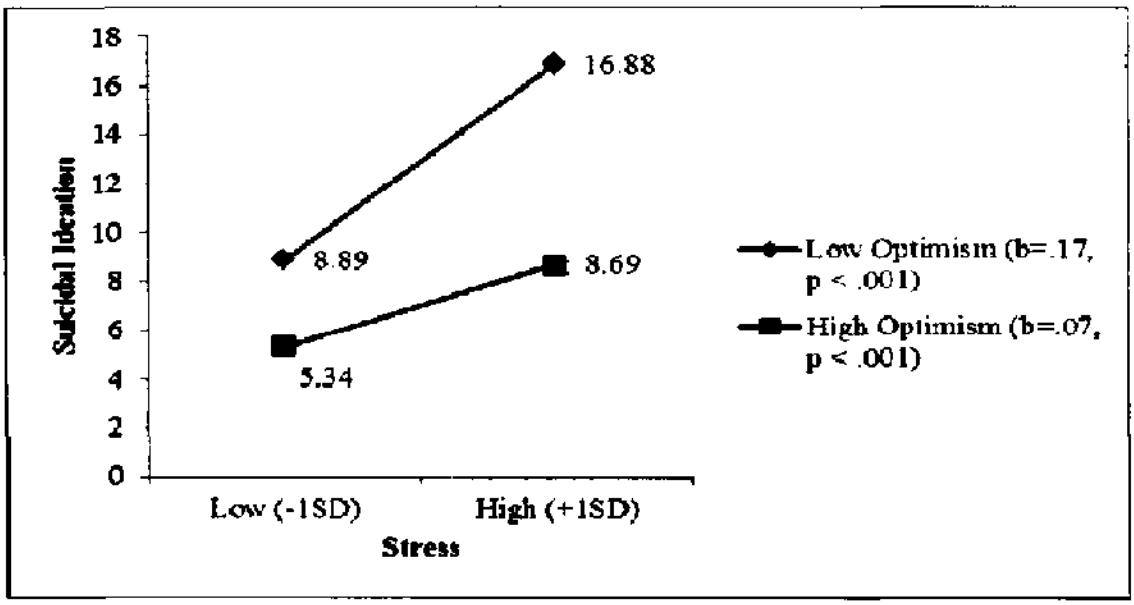

Figure 10. Plot of significant moderating effect in analysis of Stress X Optimism predicting suicidal ideation for Senior Secondary School students.

When the interaction between stress and optimism in the prediction of student suicidal ideation was further probed, it was found that each simple slope was significantly different from zero (b = .174, t = 8.213, p < .001 for low optimism; b = .073, t = 3.774, p < .001 for high optimism). As the Figure 10 shows, there was a significant positive relation between stress and suicidal ideation at both low and high levels of optimism. Hence, for both high and low optimistic students, stress was a significant predictor of suicidal ideation. Both the slopes differed significantly from each other (t = -3.329, p <

.001) indicating that suicidal ideation increased with an increase in stress level for both low and high optimists, but low optimists were at highest risk under high stress condition.

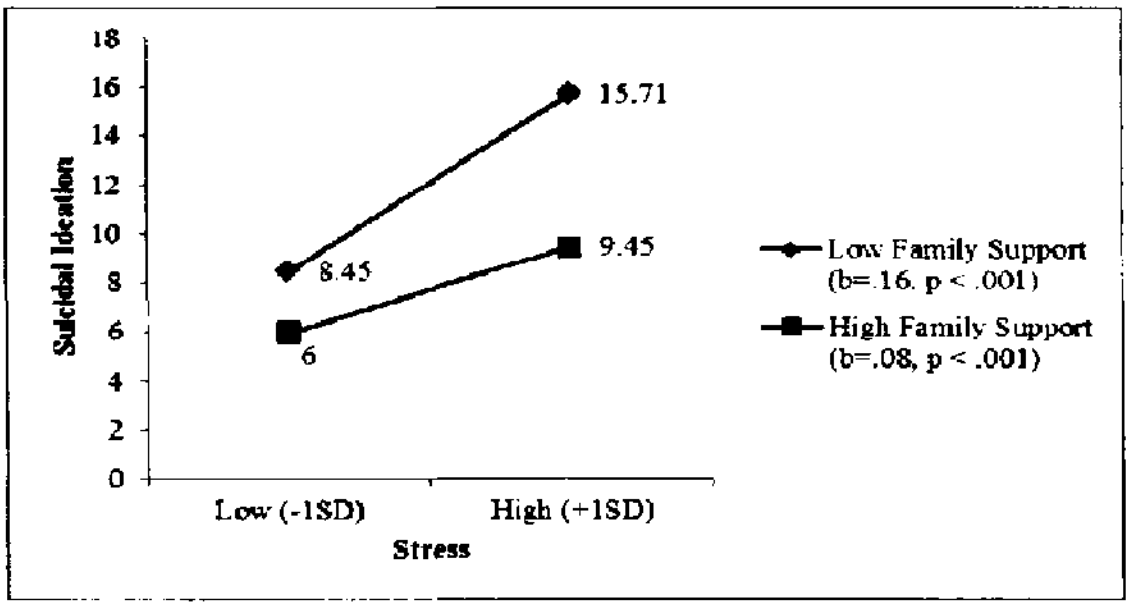

Figure 11. Plot of significant moderating effect in analysis of Stress X Perceived Social Support (Family) predicting suicidal ideation for Senior Secondary School students.

Similarly, as outlined in Figure 11, post-hoc analyses of the perceived family support interaction revealed significant relationships between stress and suicidal ideation at both high and low family support conditions (b = .075, t = 3.382, p < .001 and b = .158, t = 6.816, p < .001, respectively) . However, this relationship is stronger for low family support condition. Also, as stress increased the increase in suicidal ideation was higher among the students who scored low on family support compared to those who scored high on family support (t = -2.436, p < .05).

Our **ninth hypothesis** stated that predictors of suicidal ideation for the adolescent students of secondary school and senior secondary school will be different. A careful

analysis of the results reveals that our ninth hypothesis is also partially confirmed. A comparison of the results follows.

Hierarchical regression analysis for secondary school adolescents and senior secondary school adolescents sample shows that none of the demographic variables were significant in explaining suicidal ideation among Secondary School Students and accounted for only 1.9% the variance. However, demographic variables were found to account for a significant 17.6% of the variance in suicide ideation in the Senior Secondary Students. Noteworthy, percentage of marks in preceding grade examination (class XI; β = -.229, t-value = -3.172, $p < .01$) was a stronger predictor of suicide ideation than gender (β = -.162, t-value = -2.355, $p < .05$) and father's education (β = -.174, t-value = -2.417, $p < .05$) in Senior Secondary School Students, suggesting that lower percentage in preceding grade examination, low level of fathers education and being a boy were important predictors of suicidal ideation.

At step 2 stress was a significant predictor of suicidal ideation for both Secondary School and Senior Secondary Students. Students with higher levels of stress showed more suicidal ideation in both group.

There was a significant main effect of optimism that indicated a significant negative predictive relationship between optimism and suicidal ideation in both Secondary School students and Senior Secondary School students.

Furthermore, social support was found to account for a significant 8.5% and 5% of the variance in suicidal ideation among Secondary School students and Senior Secondary School students, respectively, but independent contribution of only family

support was significant for both the groups with lower family support predicting higher suicidal ideation (Tables 4.13 and 4.14).

As far as the moderating effect of optimism and social support is concerned only optimism emerged as a moderator of stress for secondary school students. On the other hand, for the SSS students both optimism and perceived family support were found to moderate the relationship between stress and suicidal ideation.

Chapter-V

Discussion

Discussion

As we recall the present study was conducted with the aim of exploring the predictive role of stress (risk factor), optimism and social support (protective factor) in suicidal ideation of adolescents. Furthermore, the role of optimism and social support as buffering variables was also assessed. The discussion of the findings is presented in the following paragraphs.

Level and Prevalence of Suicidal Ideation among Adolescents

The present study revealed the level and prevalence of suicidal ideation was found to be very alarming among adolescent subjects. Majority of the subjects' (boys = 99.5% and girls = 98.5%) have different levels of suicidal ideation. Only 1% subjects did not report any thought of suicide. In order to more closely examine the rate and level of suicidal ideation cut-off scores were used. The percentage of subjects lying in low and no ideator group was compared with the percentage of subjects lying in high ideator groups. The percentage of subjects lying in high ideation group is alarmingly high. The condition is more grave at Secondary School level and that also for boys as 66% of them fell into the high ideation group while only 15% of them fell into the low ideation group. The situation is better for SSS girls as only 39% of them fell into the high suicidal ideation group while 49% of them fell in the low suicidal ideation or non-suicidal ideation group.

The prevalence rate and the level of suicidal ideation do put an alarming clock to all parents and concerned youth workers. As suggested by Reynolds (1988) adolescents who score at or above the cut off scores should be referred for the further evaluation of potentially significant psychopathology and suicide at risk.

Impact of Age and Gender

Analysis of variance and further analyses shows that boys of both younger and older age group and girls of low age group were having almost similar levels of suicidal thoughts. It was only the SSS girls who reported the lowest level of suicidal thought as their mean reached below 10. The results of this study find support from the study conducted by Mackenzi et al. (2011) who, among college students, found that the frequency of depression was similar for men and women but thought of suicide was higher for men than women. Stewart et al. (2008) also found that men scored slightly higher than women on suicidal thoughts. The finding that girls of low age group are at high risk is partially supported by studies conducted by Thompson and Light (2011) and Garcia et al. (2008) who found that younger age was a risk factor for females but not for males and that a high percentage of ninth grade girls reported suicidal thought.

Though our findings are supported by the above studies, the review of earlier research conducted in India and abroad suggest contradictory results indicating higher level and prevalence of suicidal ideation among girls (Allison et al., 2001; De Man et al., 1993a; Laghi et al., 2009; Pronovost et al., 1990; Sharma et al., 2008; Sidhartha & Jena, 2006; Tomori et al., 2000; Ulusoy & Demir, 2005; Waldrop et al., 2007; Yoder et al., 2006) while completed suicides to be high among boys. One explanation that seem to be appropriate for our findings may be comparatively higher level of anxiety experienced by Indian boys (Deb, Chatterjee, & Walsh, 2010). According to these researchers, the difference may be attributed to cultural practices in Indian society. Despite the social changes brought about by globalization, underlying patriarchal structure persists (Da Costa, 2008, as cited in Deb et al., 2010) wherein boys continue to face more pressure

regarding their proper choice of vocation and future career (Deb, 2001). These adolescents also perceive comparatively higher expectations from their parents which put them at risk for psychological distress. However, at the same time, it is relevant to discuss that suicidal ideation among girls cannot be dismissed simply because the level of suicidal ideation is on average lower than of adolescent boys, as girls of the lower age group are also at high risk.

Psychosocial Predictors of Suicidal Ideation

One of the psychosocial predictors explored by the researcher was stress. Stress has emerged as potentially significant predictor of suicidal ideation among adolescents even after controlling for the effect of demographic variables such as gender, PPGE, and father's education and has accounted for as large as 28.5% of the variance. The present finding is according to our expectations and consistent with earlier researches. Bonner and Rich (1987) found that suicidal students had experienced more recent stress than non-suicidal students including stress over exams. Studies conducted on suicidal ideation have indicated that recent stressful life events are associated with poor mental health outcomes including thoughts of suicide (Flannery et al., 2001; Yang & Clum, 1996) and that recency and degree of stress are significant in the prediction of degree and recency of suicidal ideation in students (Huff, 1999). Cluster of life events and life styles (Hintikka et al., 2009) and daily stresses (Izadinia et al., 2010) also have a positive relationship with suicidal ideation. Stress predicted suicidal ideation for both boys and girls as well as for two age groups i.e. SSC and SSSC levels, suggesting that stress is a risk factor for adolescents' suicidal ideation irrespective of their gender and age.

Another factor that the researcher studied in relation to suicidal ideation was dispositional optimism. Consistent with our expectations and with previous research (Hirsch, Conner, et al., 2007), the findings of both correlation and regression analyses of this study demonstrate that adolescents with low optimism (pessimists) are more likely to experience higher level of suicidal ideation. Roberts et al. (1998) also found a positive relationship between suicidal thinking and dispositional pessimism. Additionally, Lynch et al. (1999) reported that greater pessimistic thinking at baseline predicted the development of suicidal ideation one year later. The beneficial effect of optimism may be seen across all cultures. In a cross cultural study on suicidal ideation, Abdel-Khalek and Lester (2002) concluded that pessimism was one of the several predictors of suicidal ideation for both Kuwaiti and American students. Moreover, Priester and Clum (1992) in college students found that explanatory style was predictive of hopelessness, depression and suicidal ideation with optimistic explanatory style resulting in lower levels of depression, hopelessness and suicidal ideation and pessimistic explanatory style resulting in higher levels.

Consistent with our expectations, the findings of the present study add support for the role of dispositional optimism as a stress buffering factor in suicidal ideation. The positive association between stress and suicidal ideation is found to be significantly exacerbated for low optimists (pessimists), than for high optimists (Figure 6). High optimists are at lower risk of suicidal ideation at both low and high levels of stress as compared to low optimists who experience higher level of suicidal ideation and whose risk for suicidal ideation is increased in high magnitude under high stress condition. The results suggest that individuals who are able to maintain a positive attitude regarding the

future, despite the presence of low to high levels of stress may receive the benefit of a buffering effect that protects them against suicidal thoughts. This finding is consistent with the results of the previous study (Hirsch, Wolford, et al., 2007) with college students in which dispositional optimism moderated the relationships between negative life events and current suicide ideation and previous suicide attempts, after controlling for hopelessness and severity of depression. Hirsch et al. (2007a) also suggested that individuals with a tendency to view the world in a future-oriented manner may think about negative and potentially traumatic life circumstances more favorably and may be less likely to think about or attempt suicide. Also, optimistic explanatory style mitigates the influence of negative and potentially traumatic life events on thoughts of suicide, above and beyond the effects of hopelessness and depression (Hirsch et al., 2009). Optimism has a buffering effect for both secondary school (lower age group) and senior secondary school (higher age group) students (Figure 9 & 10, respectively). But exploring samples by gender reveals that optimism has served as a protective factor against stress only for boys and not for girls (Figure 8). Earlier Shaheen (2009) also found that attribution for negative events was the most important and significant predictor of psychological distress only for males and not for females. For girls, optimism has only a direct effect on suicidal ideation. A person who is a dispositional optimist may also be protected by the use of active, adaptive coping strategies (Miller et al., 1996). Scheier and Carver (1993) and Puskar et al. (1999) found that dispositional optimists cope more adaptively than dispositional pessimists and are more likely to tackle problems directly rather than avoiding them. Dispositional optimists are more likely than dispositional pessimist to accept and attempt to change uncontrollable situations, strive to overcome

adversity, and persevere toward the accomplishment of goals (Scheier et al., 2001). However, Khosla and Hanghal (2004), among undergraduate students found that optimists as compared to pessimists displayed higher cognitive and physical resources rather than in different coping strategies.

Dispositional optimism as measured by LOT-R is assumed to be stable and trait like, but it may also be a malleable and trainable attribute (Schwarzer, 1999, Wrosch, Scheier, Miller, Schulz, & Carver, 2003). There is ample evidence that training individuals to think optimistically can reduce depression (Hawkins & Miller, 2003; Vaillant, 2003) and "perhaps similar techniques could be used to decrease suicide ideation and behaviors in these at-risk populations" (Hirsch, Conner, et al., 2007, p. 182).

Perceived social support is another factor that was examined in relation to suicidal ideation. Perceived support from family has a direct as well as moderating effect on suicidal ideation. Previous studies have identified social support and its dimensions (i.e. perceived support from family, friends and significant others) as protective factors for suicidal ideation among adolescents. The results of correlational analyses shows that perceived social support from family, friends, significant others, and overall global support are significantly negatively associated with suicidal ideation. These findings are supported by earlier findings with both adults and adolescents which indicate that suicidal individuals lack supportive relationship with others (e.g., D'Attilio et al., 1992; De Man et al., 1993a; Howard-Pitney et al., 1992; Rudd, 1990; Slater & Depue, 1981; Paulson & Everall, 2001). The results of hierarchical regression analyses of the present study shows that level of perceived support from family predicted adolescent suicidal ideation suggesting an increased likelihood of suicidal ideation in the absence of support from the

family. The results are consistent with findings of other research studies that have identified family support as protective factor for suicidal ideation among adolescents (Harris & Molock, 2000; Morion & Range, 2003) and hopelessness about parental support related directly to depression and suicide ideation (Harter et al., 1992). Morano et al. (1993) also found loss and low family support as the best predictors of an adolescent's suicide attempt. De Man et al. (1993) in their study also found suicidal ideation in adolescents to be associated with lack of sufficient parental support. Rubenstain et al. (1989) also found that high school aged adolescents who reported an attempt to hurt themselves in the previous year had stress scores 33% higher than those of nonsuicidal adolescents. Moreover family cohesion was found to offset the effect of stress.

It is also observed that those who perceive high family support are at lowest risk under both low and high stress conditions. Earlier research show that meaningful and supportive interpersonal relationships that foster a positive future orientation may be important for preventing suicide (Barber & DeRubeis, 2001; Gillham & Reivich, 2004). This is understandable, as when adolescents are under stress, support and assistance from the family members is more valuable and buffers them from its adverse effect, thus lowering the chance of developing severe level of suicidal ideation. Results of the analyses for SS and SSS students most closely resemble the results of the overall sample suggesting that family support is a protective factor against suicidal ideation for both the age groups, but it has moderated the effect of stress among SSS students only. Although adolescents generally seem to be rebellious and detached from families, support from family is still significant in providing them buffer when they face distress in their lives. SSS students who are at the verge of planning and preparing for career and who are

facing a great deal of pressure (in the form of expectations), may find family support as a boon in lessening of their stress and protecting them from higher level of suicidal ideation. Separate analyses for boys and girls revealed that family support predicted suicidal ideation only for girls and had an independent effect on suicidal ideation. For boys, family support did not predict suicidal ideaton.

As far as friends' support is concerned it is observed that perceived support from friends did not significantly contribute to the prediction of suicidal ideation for the total sample as well as for the subgroups. The results of the present study are corroborated by the research studies which show that perceived family support is a more powerful protective factor against adolescent suicidality than friends' support (Eskin, 1995; Marks & Haller, 1977; Rubenstein et al., 1989; Rudd, 1990). O'Donnell et al. (2004) also did not find peer support as a significant correlate of suicidal ideation or attempts, while family closeness came to be a strong resiliency factor.

Perceived support from significant others also did not significantly contribute to the prediction of suicidal ideation. The results of this study does not support our hypothesis and stands against the findings of previous research (De Wilde et al., 1994) which found that high risk suicidal ideation group reported less support and understanding frnm sihlings and relations outside the family.

Thus, the results of the study support the direct and moderational / stress buffering models for the role of optimism and social support for the total sample. But separate analyses for boys and girls indicate that optimism is more protective for boys and moderates the effect of stress while perceived support from family does not have either direct or moderational effect on their suicidal ideation. For girls direct effect hypothesis

of the role of optimism and perceived support from family was supported but the buffering effect model was not clear. For the two age groups direct as well as buffering effect hypotheses of the role of optimism were clearly supported while the role of perceived support from family as moderator of stress was found only for senior secondary school students and not for secondary school students.

Demographic Predictors of Suicidal Ideation

Though, in the present research, the effect of the demographic variables was controlled through the hierarchical regression analyses, their contribution in the prediction of suicidal ideation cannot be ignored. These variables accounted for 9.4% of the total variance in suicidal ideation in the total sample, 12% of the variance in boys sample, 2.2% of the variance in girls sample, 1.9% of the variance in SS sample, and 17.6% of the variance in SSS sample. Boys are at higher risk to have suicidal thoughts. Percentage of marks in previous Grade examination was significantly negatively related to suicidal ideation. Lower percentage of marks significantly predicted suicidal ideation among adolescents. This finding is consistent with some previous studies conducted by Dubow et al. (1989) and Hesketh et al. (2002). Similarly, Petzel and Riddle (1981) maintained that a poor or an overachieved academic performance can serve as a precursor to stress, subsequent depression, and suicidality. Additionally, a study performed on adolescents found that failing academic performance (compared to above average) was associated with a fivefold increased likelihood of a suicide attempt, controlling for self-esteem, locus of control and depressive symptoms (Richardson et al., 2005). Also, in another study involving school students, Martin et al. (2005) found that perceived academic performance, over and above self-esteem and locus of control, in some

instances, was a good long-term predictor of suicidality. Since class XI performance signals their performance in board examination at XII, which may adversely affect their course/career options after wards, poor marks in this examination may be a source of anxiety and depression causing them to have negative thoughts about their life. Father's education was also significantly negatively related to suicidal ideation suggesting high suicidal ideation among those whose father's education was low. But this was not true for girls' sample. At the lower age level (SSC group) none of the demographic variables predicted suicidal ideation.

Chapter-VI

Conclusions, Implications, Limitations and Suggestions for Futur Research

Conclusions

From the discussion of the above results of the present study it is concluded that there is alarmingly high prevalence and level of suicidal ideation among adolescents and particularly boys are at very high risk. Moreover, the results of the study support the role of stress as a risk factor for adolescents' suicidal ideation irrespective of age and gender. It is also observed that optimism and perceived support from family protect them from suicidal ideation supporting the direct effect hypothesis. As far as buffering effect mechanism is concerned, both the variables were found to mitigate the deleterious effect of stress. When gender and age were taken into consideration the role of optimism as a moderator was significant for both age groups as well as for boys group. Whereas, perceived support from family was potentially significant moderator of stress only for senior secondary students. One peculiar finding that is obtained in the present study is that though stress accounted for the largest variance in suicidal ideation for girls and that optimism and perceived support from family emerged as protective factors for them, the stress buffering mechanism of these variables was not supported by the results. There might be some other factors that would have helped them in coping with their stress and protecting them from being trapped in negative thinking about life. Further research may give an insight into these factors.

Apart from these psychosocial factors some of the demographic variables are also important in the understanding of adolescents suicidal ideation. It is clearly revealed from the study that low performance in the preceding examination may lead to negative ideas about life. This concern of academic performance in previous examination has an equal

impact on boys and girls. Father's education has negative impact on suicidal ideation, indicating high risk for those whose father's educational level is low.

Implications

Research and explorations are continuous process and they always open the ways for future endeavors. Therefore, research has a developmental nature where, one after the other, new things are likely to emerge. The present study is an humble effort in the same direction. As the results of the present investigation advocate the relationship of three important psychological variables- i.e. stress, optimism, and social support of students with suicidal ideation, the study will have the following implications:

1. As there is scarcity of research in the field of suicidal ideation in India, the present study will make a notable contribution in the repertory of Indian researches. As the current results concur with and are supported by previous research in suicidal ideation, the study will also be a logical and informative extension of the body of research literature in this area.

2. The present study would help the health- care professionals, counsellors, teachers, and parents in understanding the dynamics of suicidal ideation among adolescents, i.e. how high stress which is peculiar to the stage of adolescence particularly students may have serious consequences in the form of suicidal ideas and that optimistic thinking and support from family would be helpful in coping with the stresses of this stage so as to avoid its harmful effects.

3. The results also have implications for clinical psychologists, counsellors, and helpline personnel who can develop intervention strategies for preventing suicidal

behavior among adolescents. Reducing level of stress and helping the adolescents to develop more optimistic view would be expected to decrease suicidal ideation. Dispositional optimism as measured by LOT-R is assumed to be stable and trait-like but it may also be a malleable and trainable attribute. Similarly, family therapy focused on increasing family support and improving relationship within the family would be helpful.

4. The present study also have implications for policy makers in the field of education. At SSC level, Central Board of Secondary Education (CBSE) has introduced the massive change from the marks-based evaluation with a Grade-based one and its impact is seen in the form of reduced distress calls on helplines and no suicide instances being reported. With the shift of Grades, students are able to escape needless and nerve-racking competitive pressures.

   Similar steps may be taken at Senior Secondary School level to reduce the undue pressure on students and providing counselling services for the students as well as for the parents.

5. One strength of the study was the use of data from a random sample of secondary and senior secondary-school students rather than clinical settings. Thus, the results are important in the understanding of suicidal ideation of normal adolescent population. As suicidal ideation is the precursor of suicide attempts and actual suicides, understanding the risk as well as the protective factors would be helpful in preventing such negative ideas among adolescent population. The results, however, might not be generalizable to a clinical sample.

Limitations

Any investigation in spite of sincere efforts on the part of the investigator, has certain limitations. The present investigation also suffers from some shortcomings or loopholes.

1. Since the present study employed school students from Aligarh Muslim University, Aligarh as subjects, the findings of the present study cannot be generalized to other populations. Moreover, a larger sample from other school comprising of different religious background, different socio-economic strata is also desirable. But "individual research ventures, even when confined to a particular segment of society are irreplaceable in their own way. Through them the direct ways for more broad based and meaningful research becomes clear" (Ahmad, 1989).

2. Secondly, the findings of the present study cannot be generalized to the clinical population as the findings are obtained from the students who are relatively healthy and adjusted normal adolescents.

3. There is also methodological and measurement limitation as all the data collected in this study were based on self-reports, which enable participants to respond inaccurately due to social desirability bias. Although students were repeatedly told that their responses in the survey would be kept confidential, there might have been pressure on the participants to answer the questions in a way that they felt would be perceived as socially acceptable. This socially desirable responding might be seen more frequently

in the current study due to the personal nature of survey questions regarding suicide and social support.

Suggestions for the future research

The results of this study warrant the need for further research examining the association between suicidal ideation and protective and risk factors. Present investigation has the following implications for the future researches in this area:

1. A more diverse sample is needed to conduct a more thorough analysis of the association between all of the variables. This diverse sample should include adolescent from different socio-economic strata, religious affiliations, and educational backgrounds. Age comparisons should be appropriately explored in future research. Additionally, future research should explore the prevalence of suicidal ideation among other groups of adolescents in India, such as adolescents not enrolled or dropouts in school, to determine the magnitude of such problems and to compare the prevalence with that found in this study.

2. Future work is also needed to sincerely explore the gender differences in this area and empirically investigate the reasons why boys are more susceptible to suicidal ideation. In a broader sense, it is an alarming signal to parents and educators that teenagers' (both boys and girls) level of suicidal ideation seemed to gradually rise through the period of early adolescence. Future longitudinal research following participants for a relatively longer period of time may reveal a clearer picture about the protective and risk factors of the development of suicidal thinking in Indian adolescent boys and girls.

3. Other personal and social factors should be explored in order to understand more about the risk and protective factors of student suicidal ideation.

4. Future research should identify the moderators and mediators of suicidal ideation as well as to identify more protective behaviours such as coping strategies to overcome suicidal thinking.

5. This study examines only suicide ideation as the criterion. Perhaps future research should examine other variables, such as suicide behavior, which could encompass lifetime suicide ideation and attempts. Suicide behavior might serve as a better criterion, because it measures both suicide ideation and suicide attempts, both of which have an important role in the suicide process. Such future research would provide clearer picture of risk and protective factors of suicidal behavior, including suicide ideation and suicide attempts.

6. Future studies may consider using a community sample with a larger sample size, a community sample by oversampling of the high-risk population, or a clinical sample.

7. Furthermore, another future research may combine the qualitative information with the quantitative information to reach at more meaningful conclusions. In other words, in addition to self-report data, further studies should use clinical interviews to obtain qualitative data of participants suicidal ideation. A lot of complex information underneath what may appear numerically, can only be captured qualitatively. Thus, qualitative analyses will best add the rich information to the study.

Summary

Summary

The entire empirical research work on the problem "Role of Stress, Optimism, and Social Support in Suicidal Ideation among Adolescents" has been presented systematically in six different Chapters.

In Chapter-I, the first part deals with the prevalence of adolescent suicidal behavior in India and abroad, concept, definition, different theoretical perspectives, and risk and protective factors of suicidal ideation. The next part of this chapter describes the concept of stress, its relationship with health/well-being, stressors and stressors types, and adolescent stress/stressors. The third part of this chapter describes the concept and definition of optimism, optimism as dispositional characteristic / life orientation and optimism as explanatory style / or learned optimism, and Optimism vs Pessimism and its relation to physiological as well as psychological health. The last part of the chapter is concerned with the concepts and definitions, types, and functions or role of social support. Problems of adolescents in Indian context are also included in the last part of the first chapter.

Chapter-II deals with the review of the literature so that the issues and problems related to the phenomenon are clarified and highlighted. The second chapter is divided into three parts. The first part reviews the literature that investigated mainly the role of stress in adolescents' suicidal ideation. The second part covers the literature on the role of optimism in suicidal ideation, and lastly the role of social support (from family, friends and significant others) in adolescents' suicidal ideation is discussed. Review of the literature related to demographic variables and studies conducted in Indian context on suicidal ideation are also included. In the light of aims and objectives of the present

investigation, 9 hypotheses were formulated. These hypotheses are presented in the last section of the second chapter.

Chapter-III was designed for describing methodology, where the sample, tools, procedure and statistical analyses opted in carrying out the investigation have been comprehensively enumerated. The sample consisted of 200 boys and 200 girls of secondary and senior secondary school students, Aligarh Muslim University (Aligarh, U.P., India). The tools used were Personal Data Sheet, Life Orientation Test-Revised (LOT-R; Scheier et al., 1994), Multidimensional Scale of Perceived Social Support (MSPSS, Zimet et al., 1988), Student Stress Scale (SSS; Husain et al., 2006), and The Scale for Suicidal Ideation (SSI; Beck et al., 1979).

In chapter-IV, the results have been presented systematically in various tables. Descriptive statistics have been provided which follows the results of the hierarchical regression analyses.

In chapter-V, the results are discussed in the light of earlier research studies.

In chapter-VI, the conclusions, implications, limitations and suggestions for further studies are presented.

References

References

Abdel-Khalek, A., & Lester, D. (2002). Can personality predict suicidality? A study in two cultures. *International Journal of Social Psychiatry, 48*(3), 231-239. doi:10.1177/002076402128783271

Abramson, L. Y., Alloy, L., Hankin, B., Clements, C., Zhu, L., Hogan, M., & Whitehouse, W. (2000). Optimistic cognitive style and invulnerability to depression. In J. Gillham (Ed.), *The science of optimism and hope* (pp. 75-98). Philadelphia, PA: Templeton Foundation Press.

Abramson, L., Seligman, M., & Teasdale, J. (1978). Learned helplessness in humans: Critic and reformulation. *Journal of Abnormal Psychology, 87*, 49-74.

Adams, D. M., Overholser, J. C., & Spirito, A. (1994). Stressful life events associated with adolescent suicide attempts. *Canadian Journal of Psychiatry, 39*, 43-48.

Adcock, A. G., Nagy, D., & Simpson, J. A. (1991). Selected risk factors in adolescent suicide attempts. *Adolescence, 26*(104), 817-828.

Affleck, G., & Tennen, H. (1996). Construing benefits from adversity: Adaptational significance and dispositional underpinnings. *Journal of Personality, 64*(4), 899-922.

Ahmad, H. (1989). *A study of certain personality characteristic of satisfied and dissatisfied individuals*. Unpublished Ph. D. Thesis, A.M.U, Aligarh. India.

Ahmad, H. (1998). Stress and disease. In Q. Hasan (Ed.), *Applied Psychology: Indian Perspective* (pp. 105-117). New Delhi: Gyan Publishing House.

Aiken, L. S., & West, S. G. (1991). *Multiple Regression: Testing and interpreting interactions*. Newbury Park, London: Sage Publication, Inc.

Albers, E., & Evans, W. (1994). Suicide ideation among a stratified sample of rural and urban adolescents. *Child and Adolescent Social Work Journal, 11*(5), 379-389.

Allison, S., Roeger, L., Martin, G., & Keeves, J. (2001). Gender differences in the relationship between depression and suicidal ideation in young adolescents. *Australian and New Zealand Journal of Psychiatry, 35*(4), 498-503. doi:10.1046/j.1440-1614.2001.00927.x

Alloway, R., & Bebbington, P. (1987). The buffer theory of social support: A review of the literature. *Psychological Medicine, 17*, 91.

Amsel, L., & Mann, J. (2000). Biological aspects of suicidal behavior. In M. Gelder, J. Lopez-Ibor, & N. Andreasen (Eds.), *New Oxford textbook of psychiatry* (Vol. 1, Section 4.14.3, pp. 1045-1050). Oxford: Oxford University Press.

Anderman, E. M. (2002). School effects on psychological outcomes during adolescence. *Journal of Educational Psychology, 94*(4), 795-809.

Andersen, S. (1990). The inevitability of future suffering: The role of depressive predictive certainty in depression. *Social Cognition, 8,* 203-228.

Ang, R. P., & Huan, V. S. (2006). Relationship between academic stress and suicidal ideation: Testing for depression as a mediator using multiple regression. *Child Psychiatry and Human Development, 37,* 133–143.

Anteghini, M., Fonseca, H., Ireland, M., & Blum, R. W. (2001). Health risk behaviors and associated risk and protective factors among Brazilian adolescents in Santos, Brazil. *Journal of Adolescent Health, 28,* 295-302.

Antonovsky, A. (1974). Conceptual and methodological problems in the study of resistance resources and stressful life events. In B. Dohrenwend & B. Dohrenwend (Eds.), *Stressful life events: Their nature and effects* (pp. 245-258). New York: John Wiley.

Antonovsky, A. (1979). *Health, stress and coping.* San Francisco: Jossey-Bass.

Apter, S. J. (1982). *Troubled Children/Troubled Systems.* New York: Pergamon Press.

Arria, A. M., O'Grady, K. E., Caldeira, K. M., Vincent, K. B., Wilcox, H. C., & Wish, E. D. (2009). Suicide ideation among college students: A multivariate analysis. *Archives of Suicide Research, 13,* 230–246.

Arslan, M., Akçan, R., Hilal, A., Batuk, H., & Çekin, N. (2007). Suicide among children and adolescents: Data from Çukurova, Turkey. *Child Psychiatry and Human Development, 38,* 271–277. doi:10.1007/s10578-007-0060-y

Arun, P., & Chavan, B. S. (2009). Stress and suicidal ideas in adolescent students in Chandigarh. *Indian Journal of Medical Science, 63*(7), 281-287.

Asarnow, J. R. (1992). Suicidal ideation and attempts during middle childhood: Associations with perceived family stress and depression among child psychiatric inpatients. *Journal of Clinical Child Psychology, 21*(1), 35- 40.

Ayyash-Abdo, H. (2002). Adolescent suicide: An ecological approach. *Psychology in the Schools, 39*(4), 459–475.

Bagley, C. (1975). Suicidal behavior and suicidal ideation in adolescents. *British Journal of Guidance & Counselling, 3,* 190-208.

Bancroft, J., Hawton, K., Simkin, S., Kingston, B., Cumming, C., & Whitwell, D. (1979). The reasons people give for taking overdoses. A further inquiry. *British Journal of Medical Psychology, 52,* 353-365.

Barber, J. P., & DeRubeis, R. J. (2001). Change in compensatory skills in cognitive therapy for depression. *Journal of Psychotherapy and Practice Research, 10,* 8–13.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51,* 1173-1182.

Barraclough, B., & Hughes, J., (1987). *Suicide: Clinical and Epidemiological Studies.* Croom Helm, London.

Barrera, M. (1986). Distinctions between social support concepts, measures, and models. *American Journal of Community Psychology, 14,* 413-445.

Barrera, M., & Garrison-Jones, C. (1992). Family and peer social support as specific correlates of adolescent depressive symptoms. *Journal of Abnormal Child Psychology, 20,* 1–16.

Barrera, M., Sandler, I., & Ramsey, T. (1981). Preliminary development of a scale of social support: Studies on college students. *American Journal of Community Psychology, 9,* 435-447.

Battistich, V., & Hom, A. (1997). The relationship between students' sense of their school as community and their involvement in problem behaviors. *American Journal of Public Health, 87*(12), 1997-2001.

Baum, A. (1990). Stress, intrusive imagery, and chronic distress. *Health Psychology, 9*(6), 653-675.

Beard, S. S., Elmore, R. T., & Lange, S. (1982). Assessment of student needs. Areas of stress in the campus environment. *Journal of College Student Development, 23,* 348-350.

Beautrais, A. L. (2000). Risk factors for suicide and attempted suicide among young people. *Australian and New Zealand Journal of Psychiatry, 34,* 420–436.

Beautrais, A. L., Joyce, P. R., & Mulder, R. T. (1997). Precipitating factors and life events in serious suicide attempts among youth aged 13 through 24 years. *Journal of the American Academy of Child and Adolescent Psychiatry, 36,* 1543-1551.

Bebbington, P. E. (1998). Sex and depression. *Psychological Medicine, 28,* 1–8.

Beck, A., & Steer, R. (1991). *Beck Scale for Suicidal Ideation.* San Antonio, TX: Harcourt Brace. Online. Available at: http://www.psycorp.com

Beck, A. T. (1972). *Depression: Causes and treatment.* Philadelphia: University of Pennsylvania Press.

Beck, A. T., Davis, J. H., Frederick, C. J., Perlin, S., Pokorny, A. D., Schulman, R. E.,...Wittlin, B. J. (1972). Classification and nomenclature. In H. L. P. Resnik & B. C. Hathorne (Eds.), *Suicide prevention in the 70's* (pp. 7-12). Washington, D.C.: U.S. Government Printing Office.

Beck, A. T., Kovacs, M., & Weissman, A. (1979). Assessment of suicide intention: The Scale for Suicide Ideation. *Journal of Consulting and Clinical Psychology, 47,* 343–352.

Beck, A. T., Steer, R. A., Kovacs, M., & Garrison, B. (1985). Hopelessness and eventual suicide: A 10-year prospective study of patients hospitalized with suicidal ideation. *American Journal of Psychiatry, 142* (5), 559-563.

Bee-Gates, D., Howard-Pitney, B., Lafromboise, T., & Rowe, W. (1996). Help-seeking behavior of native American Indian high school students. *Professional Psychology: Research and Practice, 27*(5), 495-499.

Berkman, L. F., & Syme, S. L. (1979). Social networks, host resistance, and mortality: A nine-year follow up study of Alameda county residents. *American Journal of Epidemiology, 109,* 186-204.

Berman, A. L., & Jobes, D. (1991). *Adolescent Suicide: Assessment and Intervention.* American Psychological Association.

Bertera, E. M. (2007). The role of positive and negative social exchanges between adolescents, their peers, and family as predictors of suicide ideation. *Child and Adolescent Social Work Journal, 24,* 523–538. doi:10.1007/s10560-007-0104-y

Bisschop, M. I., Knegsman, D. M. W., Beekman, A. T. F., & Deeg, D. J. H. (2004). Chronic diseases and depression: the modifying role of psychosocial resources. *Social Science and Medicine, 59,* 721-733.

Bjarnason, T. (1994). The influence of social support, suggestion and depression on suicidal behavior among Icelandic youth. *Acta Sociologica, 37,* 195-206.

Blankstein, K. R., Lumley, C. H., & Crawford, A. (2007). Perfectionism, hopelessness, and suicide ideation: Revisions to diathesis-stress and specific vulnerability

models. *Journal of Rational-Emotive & Cognitive-Behavior Therapy, 25*(4), 279-319. doi:10.1007/s10942-007-0053-6

Blazer, D. G. (1982). *Depression in later life.* London C.V. Morsby Company.

Bolger, N., Downey, G., Walker, E., & Steininger, P. (1989). The onset of suicidal ideation in childhood and adolescence. *Journal of Youth and Adolescence, 18*(2), 175-190.

Bongar, B. (2002). *The suicidal patient. Clinical and legal standards of care* (Second Edition). Washington, DC: American Psychological Association.

Bonner, R. L., & Rich, A. R. (1987). Toward a predictive model of suicidal ideation and behaviour: Some preliminary data in college students. *Suicide and Life-Threatening Behavior, 17,* 50-63.

Bonner, R. L., & Rich, A. R. (1988). Negative life stress, social problem-solving self-appraisals, and hopelessness: Implications for suicide research. *Cognitive Therapy and Research, 12*(6), 549-556.

Borowsky, I. W., Ireland, M., & Resnick, M. D. (2001). Adolescent suicide attempts: Risks and protectors. *Pediatrics, 107,* 485-493. doi:10.1542/peds.107.3.485

Bowlby, J. (1969). *Attachment and loss: Vol I.* Atachment. London: Hogarth Press.

Brenner, M. H. (1973). *Mental illness and the economy.* Harvard University Press, Cambridge.

Brent, D. A., Perper, J. A., Goldstein, C. E., Kolko, D. J., Allan, M. J., Allman, C. J., & Zelenak, J. P. (1988). Risk factors for adolescent suicide: A comparison of adolescent suicide victims with suicide inpatients. *Archives of General Psychiatry, 45,* 581-588.

Brissette, I., Scheier, M. F., & Carver, C. S. (2002). The role of optimism in social network development, coping, and psychological adjustment during a life transition. *Journal of Personality and Social Psychology, 82,* 102–111.

Broadhead, W. E., & Kaplan, B. H. (1991). Social support and the cancer patients. *Cancer, 67,* 794-799.

Broadhead, W. E., Kaplan, B. H., James, S. A., Wagner, E. H., Schoenback, V. J., Grimson, R., ...Gehlbach, S. H. (1983). The epidemiologic evidence for a relationship between social support and health. *American Journal of Epidemiology, 117,* 521-537.

Broman, C. L. (1993). Social relationships and health-related behaviour. *Journal of Behavioral Medicine, 16,* 335-350.

Brooksbank, D. J. (1985). Suicide and parasuicide in childhood and early adolescence. *British Journal of Psychiatry, 146,* 459-463.

Brown, G. K., Beck, A. T., Steer, R. A., & Grisham, J. R. (2000). Risk factors for suicide in psychiatric outpatients: A 20-year prospective study. *Journal of Consulting and Clinical Psychology, 68*(3), 371-377.

Brown, G. W., Bhrolchein, M. N., & Harris, T. (1975). Social class and psychiatric disturbance among women in urban population. *Sociology, 9,* 225-254.

Brownell, A., & Shumaker, S. A. (1984). Social support: An introduction to a complex phenomenon. *Journal of Social Issues, 40,* 1-9.

Burke, K. L., Joyner, A. B., Czech, D. R., & Wilson, M. J. (2000). An investigation of concurrent validity between two optimism/pessimism questionnaires: The life orientation test-revised and the optimism/pessimism scale. *Current Psychology, 19*(2), 129–136.

Burns, M. O., & Seligman, M. E. P. (1989). Explanatory style across the life span: Evidence for stability over 52 years. *Journal of Personality and Social Psychology, 56,* 471-477.

Bush, E., & Pargament, K. (1995). A quantitative and qualitative analysis of suicidal preadolescent children and their feimilies. *Child Psychiatry & Human Development, 25*(4), 241-252.

Butler, J. W., Novy, D., Kagan, N., & Gates, G. (1994). An investigation of differences in attitudes between suicidal and nonsuicidal student ideators. *Adolescence, 29*(115), 623-638.

Canetto, S. S. (1997). Meaning of gender and suicidal behavior during adolescence. *Suicide and Life Threatening Behavior, 27,* 339–351.

Cannon, W. B. (1939). *The wisdom of the body.* New York: Norton.

Canty-Mitchell, J., & Zimet, G. D. (2000). Psychometric properties of the Multidimensional Scale of Perceived Social Support in urban adolescents. *American Journal of Community Psychology, 28,* 391-400.

Caplan, G. (1974). *Support system and community mental health.* New York: Behavioral Publications.

Carels, R. A., Blumenthal, J. A., & Sherwood, A. (1998). Effect of satisfaction with social support on blood pressure in normotensive and borderline hypertensive men and women. *International Journal of Behavioral Medicine, 5*, 76-85.

Carris, M. J., Sheeber, L., & Howe, S. (1998). Family rigidity, adolescent problem-solving deficits, and suicidal ideation: A meditational model. *Journal of Adolescence, 21*(4), 459-472.

Carter, M., McGee, R., Taylor, B., & Williams, S. (2007). Health outcomes in adolescence: Associations with family, friends and school engagement. *Journal of Adolescence, 30*, 51–62. doi:10.1016/j.adolescence.2005.04.002

Carver, C. S., & Scheier, M. F. (1998). *On the self-regulation of behavior*. New York: Cambridge University Press.

Carver, C. S., & Scheier, M. F. (1999). Optimism. In C. R. Snyder (Ed.), *Coping: The psychology of what works* (pp. 182-204). New York: Oxford Univerversity Press.

Carver, C. S., & Scheier, M. F. (2001). Optimism, pessimism, and self-regulation. In E. C. Chang (Ed.), *Optimism & pessimism: Implications for theory, research, and practice* (pp. 31-51). Washington, DC: American Psychological Association.

Carver, C. S., & Scheier, M. F. (2002). Optimism. In C. R. Snyder & S. J. Lopez (Eds.), *The handbook of psychology* (pp. 231-243). New York: Oxford University Press.

Carver, C. S., Pozo, C., Harris, S. D., Noriega, V., Scheier, M. F., Robinson, D. S., ...Clark, K. C. (1993). How coping mediates the effects of optimism on distress: A study of women with early stage breast cancer. *Journal of Personality and Social Psychology, 65*. 375-390.

Carver, C. S., Scheier, M. F., & Segerstrom, S. C. (2010). Optimism. *Clinical Psychology Review, 30*, 879–889.

Cassel, J. (1974). Psychosocial processes and stress: Theoretical foundations. *International Journal of health services, 3*, 471-482.

Cassel, J. (1976). The contribution of the social environment to host resistance. *American Journal of Epidemiology, 104*, 107-123.

Cecil, H., Stanley, M. A., Carrion, P. G., & Swann, A. (1995). Psychometric properties of the MSPSS and NOS in psychiatric outpatients. *Journal of Clinical Psychology, 51*, 593-602.

Cerutti, R., Manca, M., Presaghi, F., & Gratz, K. L. (2011). Prevalence and clinical correlates of deliberate self-harm among a community sample of Italian

adolescents. *Journal of Adolescence, 34,* 337-347. doi:10.1016/j.adolescence.2010.04.004

Chan, S., Miranda, R., & Surrence, K. (2009). Subtypes of rumination in the relationship between negative life events and suicidal ideation. *Archives of Suicide Research, 13,* 123-135.

Chan, T., & Ward, S. (1993). Coping process theory: a tool to reduce stress and cardiovascular disease. *AAOHN Journal, 41,* 499-503.

Chang, E. C. (1998). Distinguishing between optimism and pessimism: A second look at the optimism-neuroticism hypothesis. In R. R. Hoffman, M. F. Sherrick, & J. S. Warm (Eds.), *Viewing psychology as a whole: The integrative science of William N. Dember* (pp. 415-432). Washington, DC: American Psychological Association.

Chang, E. C. (2002). Predicting suicide ideation in an adolescent population: Examining the role of social problem solving as a moderator and a mediator. *Personality and Individual Differences, 32*(7), 1279-1291.

Chang, E. C., & Sanna, L. J. (2001). Optimism, pessimism, and positive and negative affectivity in middle-aged adults: A test of a cognitive-affective model of psychological adjustment. *Psychology and Aging, 16,* 524-531.

Chang, E. C., Sanna, L. J., Hirsch, J. K., & Jeglic, E. L. (2010). Loneliness and negative life events as predictors of hopelessness and suicidal behaviors in Hispanics: Evidence for a diathesis-stress model. *Journal of Clinical Psychology, 66*(12), 1242-1253.

Chang, H. J., Yang, C. Y., Lin, C. R., Ku, Y. L., & Lee, M. B. (2008). Determinants of suicidal ideation in Taiwanese urban adolescents. *Journal of Formosan Medical Association, 107*(2), 156–164.

Chatterjee, I., & Basu, J. (2010). Perceived causes of suicide, reasons for living and suicidal ideation among Students. *Journal of the Indian Academy of Applied Psychology, 36*(2), 311-316.

Chen, P. C. Y., Lee, L. K., Wong, K. C., & Kaur, J. (2005). Factors relating to adolescent suicidal behaviour: A cross-sectional Malaysian school survey. *Journal of Adolescent Health, 37,* e11-e16.

Cheng, S. T., & Chan, A. C. M. (2007). Multiple pathways from stress to suicidality and the protective effect of social support in Hong Kong adolescents. *Suicide and Life-Threatening Behavior, 37*(2), 187-196.

Cheng, Y., Newman, I. M., Qu, M., Mbulo, L., Chai, Y., Chen, Y., & Shell, D. F. (2010). Being bullied and psychosocial adjustment among middle school students in China. *Journal of School Health, 80*(4), 193-199.

Cheng, Y., Tao, M., Riley, L., Kann, L., Ye, L., Tian, X., ...Chen, D. (2009). Protective factors relating to decreased risks of adolescent suicidal behaviour. *Child: care, health and development, 35*(3), 313–322. doi:10.1111/j.1365-2214.2009.00955.x

Cheung, Y. B., Law, C. K., Chan, B., Liu, K. Y., & Yip, S. F. (2006). Suicidal ideation and suicidal attempts in a population-based study of Chinese people: Risk attributable to hopelessness, depression, and social factors. *Journal of Affective Disorders, 90*(2-3), 193-199.

Chew, K., & McLeary, R. (1995). The spring peak in suicides: A cross-national analysis. *Social Science and Medicine, 40,* 223-230.

Chia, B. H. (1999). *Too young to die: an Asian perspective on youth suicide.* Times Books International, Singapore.

Cho, Y. -B., & Haslam, N. (2010). Suicidal Ideation and Distress Among Immigrant Adolescents: The Role of Acculturation, Life Stress, and Social Support. *Journal of Youth and Adolescence, 39,* 370-379. doi:10.1007/s10964-009-9415-y

Choquet, M., & Menke, H. (1989). Suicidal thoughts during early adolescence: prevalence, associated troubles and help seeking behaviour. *Acta Psychiatrica Scandinavica, 81,* 170-177.

Ciarrochi, J., Deane, F. P., & Anderson, S. (2002). Emotional intelligence moderates the relationship between stress and mental health. *Personality and Individual Differences, 32,* 197-209.

Ciarrochi, J., Scott, G., Deane, F. P., & Heaven, P. C. L. (2003). Relations between social and emotional competence and mental health: a construct validation study. *Personality and Individual Differences, 35,* 1947–1963. doi:10.1016/S0191-8869(03)00043-6

Clara, I. P., Cox, B. J., Enns, M. W., Murray, L. D., & Torgrudc, L. J. (2003). Confirmatory factor analysis of the Multidimensional Scale of Perceived Social Support in clinically distressed and student sample. *Journal of Personality Assessment, 81*(3), 265-270.

Clark, D. C., & Fawcett, J. (1992). An empirically based model of suicide risk assessment for patients with affective disorder. In D. Jacobs (Ed.), *Suicide and clinical practice* (pp. 55-73). Washington, DC: American Psychiatric Press.

Clum, G. A., & Febbraro, G. A. R. (1994). Stress, social support, and problem-solving appraisal/skills: Prediction of suicide severity within a college sample. *Journal of Psychopathology and Behavioral Assessment, 16*(1), 69–83.

Clum, G. A., Canfield, D., Arsdel, M. V., Yang, B., Febbraro, G., & Wright, J. (1997). An expanded etiological model for suicide behavior in adolescents: Evidence for its specificity relative to depression. *Journal of Psychopathology and Behavioral Assessment, 19*(3), 207–222.

Clum, G. A., Luscomb, R. L., & Patsiokas, A. T. (1991). On the stress/parasuicide or parasuicide/stress relationship. *Psychological Reports, 68,* 1317 – 1318.

Clum, G. A., Patsiokas, A., & Luscomb, R. (1979). Empirically based comprehensive treatment program for parasuicide. *Journal of Consulting and Clinical Psychology, 47,* 937-945.

Cobb, S. (1976). Social support as a moderator of life stress. *Psychosomatic Medicine, 38,* 300-314.

Coggan, C., Patterson, P., & Fill, J. (1997). Suicide: qualitative data from focus group interviews with youth. *Social Sciences Medicine, 45*(10), 1563-1570.

Cohen, J., & Cohen, P. (1983). *Applied multiple regression/correlation analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioural sciences,* 3rd edition. Mahwah, NJ: Lawrence Earlbaum Associates.

Cohen, L. (1982). Life change and the sensation seeking motive. *Personality and Individual Differences, 3,* 221-222.

Cohen, S. (1988). Psychosocial models of the role of social support in the etiology of physical disease. *Health Psychology, 7,* 269-297.

Cohen, S., & Hoberman, H. M. (1983). Positive events and social supports as buffers of life change stress. *Journal of Applied Social Psychology, 13,* 99-125.

Cohen, S., & McKay, G. (1984). Social support, stress and the buffering hypotheses: A theoretical analysis. In A. Baum, S. E. Taylor, & J. E. Singer (Eds.), *Handbook of Psychology and Health* (Vol. 4, pp. 253-267). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Cohen, S., & Robin, B. S. (1998). Psychologic stress, immunity, and cancer. *Journal of the National Cancer Institute, 90,* 30-36.

Cohen, S., & Syme, S. L. (1985). *Social support and health.* Sand Diego., C. A.: Academic Press.

Cohen, S., & Wills, T. A. (1985). Stress, social support and the buffering hypothesis. *Psychological Bulletin, 98,* 310-357.

Cohen, S., Frank, E., Doyle, W. J., Skoner, D. P., Robin, B. S., & Gwaltney, J. M. (1998). Types of stressors that increase susceptibility to the common cold in healthy adults. *Health Psychology, 17*(3), 214-223.

Cohen-Sandler, R., Berman, A. L., & King, R. A. (1982). Life stress and symptomatology: determinants of suicidal behavior in children. *Journal of the American Academy of Child Psychiatry, 21*(2), 178-186.

Colarossi, L. G., & Eccles, J. S. (2003). Differential effects of support providers on adolescents' mental health. *Social Work Research, 27*(1), 19-30.

Cole, D. A. (1988). Hopelessness, social desirability, depression, and parasuicide in two college student samples. *Journal of Consulting and Clinical Psychology, 56,* 131-136.

Cole, D. E., Protinsky, H. O., & Cross, L. H. (1992). An empirical investigation of adolescent suicidal ideation. *Adolescence, 27*(108), 813-818.

Coleman, J. C. (1976). *Abnormal Psychology and Modern Life,* Bombay: Taraporewalla.

Comer, R. I. (2002). *Fundamentals of Abnormal Psychology.* New York: Worth Publishers.

Compas, B. E. (1987). Coping with stress during childhood and adolescence. *Psychological Bulletin, 101,* 393-403.

Compas, B. E., Connor-Smith, J. K., Saltzman, H., Thomsen, A. H., & Wadsworth, M. E. (2001). Coping with stress during childhood and adolescence: Problems, progress, and potential in theory and research. *Psychological Bulletin, 127*(1), 87-127.

Conner, K. R., Duberstein, P. R., Conwell, Y., Seidlitz, L., & Caine, E. D. (2001). Psychological vulnerability to completed suicide: A review of empirical studies. *Suicide and Life-Threatening Behavior, 31,* 367–385.

Cooper, J., Appleby, L., & Amos, T. (2002). Life events preciding suicide by young people. *Social Psychiatry and Epidemiology, 37,* 271-275.

Cox, M. J. (1999). *Conflict and Cohesion in Families.* Mahwah, NJ: Lawrence Erlbaum Associates.

Cox, T. (1978). *Stress*. Baltimopre: University Park Press.

Cronbach, L. (1951). Coefficient alpha and the internal structure of lists. *Psychometrika, 16,* 297-334.

Cui, S., Cheng, Y., Xu, Z., Chen, D., & Wang, Y. (2011). Peer relationships and suicide ideation and attempts among Chinese adolescents. *Child: Care, Health and Development, 37*(5), 692–702. doi:10.1111/j.1365-2214.2010.01181.x

Cumsille, P. E., & Epstein, N. (1994). Family cohesion, family adaptability, social support, and adolescent depressive symptoms in outpatient clinic families. *Journal of Family Psychology, 8,* 202–214.

Curbow, B., Somerfield, M. R., Baker, F., Wingard, J. R., & Legro, M. W. (1993). Personal changes, dispositional optimism, and psychological adjustment to bone marrow transplantation. *Journal of Behavioral Medicine, 16,* 423-443.

Cutrona, C. E., Cole, V., Colangelo, N., Assouline, S. G., & Russell, D. W. (1994). Perceived parental social support and academic achievement: An attachment theory perspective. *Journal of Personality and Social Psychology, 66,* 369-378.

D'Attilio, J. P., Campbell, B. M., Lubold, P., Jacobson, T., & Richard, J. A. (1992). Social support and suicidal potential: Preliminary findings for adolescent populations. *Psychological Reports, 70,* 76-78.

Dahlem, N. W., Zimet, G. D., & Walker, R. R. (1991). The Multidimensional Scale of Perceived Social Support: A confirmation study. *Journal of Clinical Psychology, 51,* 593-602.

Davis, M. C., & Swan, P. D. (1999). Association of negative and positive social ties with fibrinogen levels in young women. *Health Psychology, 18,* 131-139.

Davis, P. (1983). *Suicidal adolescents.* Springfield, IL: Charles C. Thomas.

Davis, P. A., Holm, J. E., Myers, T. C., & Suda, K. T. (1998). Stress, headache, and physiological disregulation: A time-series analysis of stress in the laboratory. *Headache, 38*(2), 116-121.

De Catanzaro, D. (1987). Evolutionary pressures and limitations to self-preservation. In C. Crawford, M. smith, & D. Krebs (Eds.), *Sociobiology and psychology: Ideas, issues, and applications* (pp. 311-333). Hillsdale, NJ: Erlbaum.

De Hert, M., & Peuskens, J. (2000). Psychiatric aspects of suicidal behavior: Schizophrenia. In K. Hawton & K. van Heeringen (Eds.), *The international handbook of suicide and attempted suicide* (pp. 121-134). Chichester: Wiley.

De Man, A. F. (1988). Suicide ideation, stress, social support, and personal variables in French-Canadians: A structural analysis of relationships. *Journal of Social Behavior and Personality, 3,* 127-134.

De Man, A. F. (1999). Correlates of suicide ideation in high school students: The importance of depression. *The Journal of Genetic Psychology, 160,* 105–114.

De Man, A. F., Balkou, S., & Iglesias, R. I. (1987). Social support and suicidal ideation in French-Canadians. *Canadian Journal of Behavioural Science, 19*(3), 342-346.

De Man, A. F., Labreche-Gauthier, L., & Leduc, C. P. (1993). Parent-child relationships and suicidal ideation in French-Canadian adolescents. *The Journal of Genetic Psychology, 154,* 17-23.

De Man, A. F., Leduc, C. P., & Labréche-Gauthier, L. (1993a). Correlates of suicidal ideation in French-Canadian adolescents: Personal variables, stress, and social support. *Adolescence, 28,* 819-830.

De Man, A. F., Leduc, C. P., & Labréche-Gauthier, L. (1993b). A French-Canadian Scale for Suicide Ideation for use with adolescents. *Canadian Journal of Behavioural Science, 25,* 126-134.

De Wilde, E. J., Kienhorst, C. W. M., Diekstra, R. F. W., & Wolters, W. H. G. (1994). Social support, life events, and behavioral characteristics of psychologically distressed adolescents at high risk for attempting suicide. *Adolescence, 29,* 49-60.

De Wilde, E. J., Kienhorst, I. C. W. M., Diekstra, R. F. W., & Wolters, W. H. G. (1992). The relationship between adolescent suicidal behavior and life events in childhood and adolescence. *American Journal of Psychiatry, 149,* 45–51.

Dean, A., & Lin, N. (1977). The stress-buffering role of social support: Problems and prospects for systematic investigation. *Journal of Nervous and Mental Diseases, 165,* 403-417.

Deb, S. (2001, October). *A study on the negative effects of academic stress.* Paper presented at the International Seminar on Learning and Motivation, Kedah Darul Aman, Malaysia.

Deb, S., Chatterjee, P., & Walsh, K. (2010). Anxiety among high school students in India: Comparisons across gender, school type, social strata and perceptions of quality time with parents. *Australian Journal of Educational & Developmental Psychology, 10,* 18-31.

Dhar, S., & Basu, S. (2006). A comparative study of number of life events, presumptive stress, and different ego functions of students with 'low' and 'high' suicidal risks. *Indian Journal of Clinical Psychology, 33*(2), 159-164.

Dobson, C. B., & Alban Metacalfe, R. J. (1983). Reliability and validity of the student stress inventory. *British Journal of Educational Psychology, 53*(1), 121-125.

Dooley, D., & Catalano, R. (1984). Why the economy predicts help seeking: A test of competing explanations. *Journal of Health and Social Behavior, 25,* 160-175.

Dori, G. A., & Overholser, J. C. (1999). Depression, hopelessness, and self-esteem: Accounting for suicidality in adolescent psychiatric inpatients. *Suicide and Life-Threatening Behavior, 29*(4), 309-318.

Driessen, M., Veltrup, C., Weer, J., Joh, U., Wetterling, T., & Dilling, H. (1998). Psychiatric comorbidity, suicidal behavior and suicidal ideation in alcoholics seeking treatment. *Addiction, 93,* 889-894.

Dubow, E. F., Kausch, D. F., Blum, M. C., Reed, J., & Bush, E. (1989). Correlates of suicidal ideation and attempts in a community sample of junior high and high school students. *Journal of Clinical Child Psychology, 18*(2), 158-166.

Durkheim, E. (1938). *The rules of sociological method.* New York: Free Press.

Durkheim, E. (1951). *Suicide: A study in sociology.* New York: Free Press. (Original work published 1897)

Earle, K., Forquer, S., Volo, A., & McDonnell, P. (1994). Characteristics of outpatient suicides. *Hospital and Community Psychiatry, 148,* 123-126.

Eckersley, R., & Dear, K. (2002). Cultural correlates of youth suicide. *Social Science & Medicine, 55,* 1891–1904.

Edwards, A. L. (1971). *Experimental design in psychological research* (3rd ed.). New York: Amerind Publishing Co. Pvc. Ltd.

Edwards, M. J., & Holden, R. R. (2001). Coping, meaning in life, and suicidal manifestations: Examining gender differences. *Journal of Clinical Psychology, 57,* 1517-1534.

Eggert, L. L., Thompson, E. A., Herting, J. R., & Nicholas, L. J. (1995). Reducing suicide potential among high-risk youth: Tests of a school-based prevention program. *Suicide and Life Threatening Behavior, 25*(2), 276-296.

Eker, D., & Arkar, H. (1995). Perceived social support: Psychometric properties of the MSPSS in normal and pathological groups in a developing country. *Social Psychiatry and Psychiatric Epidemiology, 30,* 121-126.

Elliot, T., Witty, T., Herrick, S., & Hoffman, J. (1991). Negotiating reality after physical loss: Hope, depression, and disability. *Journal of Personality and Social Psychology, 61,* 608-613.

Erikson, E. H. (1959). *Identity and the life cycle.* New York: International Universities Press.

Eshun, S. (1999). Cultural variations in hopelessness, optimism, and suicidal ideation: A study of Ghana and U. S. college samples. *Cross-Cultural Research: The Journal of Comparative Social Science, 33*(3), 227-238.

Eskin, M. (1995). Suicidal behavior as related to social support and assertiveness among Swedish and Turkish high school students: A cross-cultural investigation. *Journal of Clinical Psychology, 51*(2), 158-172.

Esposito, C. L., & Clum, G. A. (2002). Social support and problem-solving as moderators of the relationship between childhood abuse and suicidality: Applications to a delinquent population. *Journal of Traumatic Stress, 15*(2), 137–146.

Esposito, C. L., & Clum, G. A. (2003). The relative contribution of diagnostic and psychosocial factors in the prediction of adolescent suicidal ideation. *Journal of Clinical Child and Adolescent Psychology, 32*(3), 386–395.

Evans, E., Hawton, K., & Rodham, K. (2004). Factors associated with suicidal phenomena in adolescents: a systematic review of population-based studies. *Clinical Psychology Review, 24,* 957–979.

Eyman, J., & Eyman, S. (1992). Psychological testing for potentially suicidal individuals. In B. Bonger (Ed.), *Suicide: Guidelines for assessment, management, and treatment* (pp. 127-143). New York: Oxford University Press.

Fairchild, A. J., & McQuillin, S. D. (2010). Evaluating mediation and moderation effects in school psychology: A presentation of methods and review of current practice. *Journal of School Psychology, 48,* 53–84. doi:10.1016/j.jsp.2009.09.001

Fedorowicz, V. J., & Fombonne, E. (2007). Suicidal behaviours in a population-based sample of French youth. *The Canadian Journal of Psychiatry, 52*(12), 772-779.

Feldman, S. S., Rubenstein, J. L., & Rubin, C. (1988). Depressive affect and restraint in early adolescents: relationships with family structure, family process and friendship support. *Journal of Early Adolescence, 8*(3), 279-296.

Fergusson, D. M., & Lynskey, M. T. (1995). Suicide attempts and suicidal ideation in a birth cohort of 16-year-old New Zealanders. *Journal of the American Academy of Child and Adolescent Psychiatry, 34,* 1308–1317.

Fergusson, D. M., Woodward, L. J., & Horwood, L. J. (2000). Risk factors and life processes associated with the onset of suicidal behavior during adolescence and early adulthood. *Psychological Medicine, 30*(1), 23-39.

Fincham, F. (2000). Optimism and the family. In J. Gillham (Ed.), *The science of optimism and hope* (pp. 271-298). Philadelphia: Templeton Foundation Press.

Flannery, D. J., Singer, M. I., & Wester, K. (2001). Violence exposure, psychological trauma, and suicide risk in a community sample of dangerously violent adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry, 40,* 435–442.

Fontaine, K. R., Manstead, A. S. R., & Wagner, H. (1993). Optimism, perceived control over stress, and coping. *European Journal of Psychology, 7,* 267-281.

Foster, T., Gillespie, K., McClelland, R., & Patterson, C. (1999). Risk factors for suicide independent of DSM-III-R axis I disorder. Case-control psychological autopsy study in Nothern Ireland. *British Journal of Psychiatry, 175,* 175–179.

Freud, S. (1957). Mourning and melancholoia. In J. Strachey (Trans. and Ed.), *The standard edition of the complete psychological works of Sigmund Freud* (pp. 243-58). London: Hogarth. (Original work published 1915.)

Freud, S. (1961). Beyond the pleasure principle. In J. Strachey (Trans. and Ed.). *The standard edition of the complete psychological works of Sigmund Freud: Vol. 18* (pp. 7-64). London: Hogarth. (Original work published 1920.)

Friedman, R. C., Aronoff, M. S., Clarkin, J. F., Corn, R., & Hurt, S. W. (1983). History of suicidal behavior in depressed borderline inpatients. *American Journal of Psychiatry, 140,* 1023-1026.

Frydenberg, E., & Lewis, R. (1991). Adolescent coping: The different ways in which boys and girls cope. *Journal of Adolescence.* 14, 119-133.

Funch, D. P., Marshall, J. R., & Gebhardt, G. P. (1986). Assessment of a short scale to measure social support. *Social Science & Medicine, 23,* 337-344.

Galaif, E. R., Chou, C., Sussman, S., & Dent, C. W. (1998). Depression , suicidal ideation, and substance use among continuation high school students. *Journal of Youth and Adolescence, 27,* 275-299.

Galbraith, J. K. (1977). *The Age of Uncertainty.* Boston, Houghton Mifflin.

Garcia, C., Skay, C., Sieving, R., Naughton, S., & Bearinger, L. H. (2008). Family and racial factors associated with suicide and emotional distress among Latino students. *Journal of School Health, 78*(9), 487-495.

Garfinkel, B. D., Froese, A., & Hood, J. (1982). Suicide attempts in children and adolescents. *American Journal of Psychiatry, 139,* 1257-1261.

Garrison, C. Z. (1989). The study of suicidal behaviour in the schools. In I. S. Lann, E. X Mo'scicki, & R. Maris (Eds.), *Strategies for studying suicide and suicidal behavior.* New York: The Guilford Press.

Garrison, C. Z., Addy, C. L., Jackson, K. L., McKeown, R. E., & Waller, J. L. (1991). A longitudinal study of suicidal ideation in young adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry, 30,* 597–603.

Garrison, C. Z., Jackson, K. L., Schluchter, M. D., Geller, B., Marsteller, F., Tse, J., & Hallman, M. (1988). Prediction of suicidal ideation in adolescents. In D. Lester (Ed.), *Suicide' 88* (pp. 11-12). Denver: AAS.

Garssen, B. (2004). Psychological factors and cancer development: evidence after 30 years of research. *Clinical Psychology Review, 24,* 315-338.

Gauze, C., Bukowski, W. M., Aquan-Assee, J., & Sippola, L. K. (1996). Interactions between family environment and friendship and associations with self-perceived well-being during adolescence. *Child Development, 67,* 2201–2216.

Gençöz, T., & Or, P. (2006). Associated factors of suicide among university students: Importance of family environment. *Contemporary Family Therapy, 28*(2), 261–268. doi:10.1007/s10591-006-9003-1

Gentry, W. D., & Kobasa, S. C. O. (1984). Social and psychological resources mediating stress-illness relationships in humans. In W. D. Gentry (Ed.) *Handbook of Behavioural Medicine.* New York: Guilford.

Gersten, J. C., Langner, T. S., Eisenberg, J. G., & Orzek, L. (1974). Child behavior and life events: Undesirable change or change per se. In B. S. Dohrenwend & B. P. Dohrenwend (Eds.), *Stressful Life Events: Their Nature and Effects* (pp. 159-170). New York: Wiley.

Gibbs, J. (1997). African American suicide: A cultural paradox. *Suicide and Life-Threatening Behavior, 27,* 68-79.

Gilham, J., Shatte, A., Reivich, K., & Seligman, M. (2001). Optimism, pessimism, and explanatory style. In E. Cheng (Ed.), *Optimism & pessimism: Implication for theory, research, and practice* (pp. 53-75). Washington, DC: American Psychological Association.

Gillham, J., & Reivich, K. (2004). Cultivating optimism in childhood and adolescence. *The ANNALS of the American Academy of Political and Social Science, 591,* 146–163.

Glaser, R., & Kiecolt-Glaser, J. K. (1998). Stress-associated immune modulation: Relevance to viral infections and chronic fatigue syndrome. *American Journal of Medicine, 105*(3A), 35S-42S.

Gloria, A. M., & Ho, T. A. (2003). Environmental, social, and psychological experiences of Asian-American undergraduates: examining issues of academic persistence. *Journal of Counseling and Development, 81*, 93–106.

Goldney, R. D., Wilson, D., Dal Grande, E., Fisher, L. J., & McFarlane, A. C. (2000). Suicidal ideation in a random community sample: attributable risk due to depression and psychosocial and traumatic events. *Australian and New Zealand Journal of Psychiatry, 34*, 98–106.

Goldney, R. D., Winefield, A. H., Tiggemann, M., Winefield, H. R., & Smith, S. (1989). Suicidal ideation in a young adult population. *Acta Psychiatrica Scandinavica, 79*, 481–489. doi:10.1111/j.1600-0447.1989.tb10291.x

Goodell, H., Wolf, S., & Rogers, F. B. (1986). Historical perspective. In S. Wolf & A. J. Finestone (Eds.), *Occupational stress, health and performance at work*. Littleton, MA: PSG Inc.

Gore, S. (1981). Stress-buffering functions of social supports: An appraisal and clarification of research models. In B. S. Dohrenwend & B. P. Dohrenwend (Eds.), *Stressful life events and their context* (pp. 202-222). New York: Prodist.

Gore, S., & Aseltine, R. H. (1995). Protective processes in adolescence: Matching stressors with social resources. *American Journal of Community Psychology, 23*, 301-328.

Gottlieb, B. H. (1985). Social support and the study of personal relationships. *Journal of Social and Personal Relationship, 2*, 351-375.

Gottlieb, B. H. (1988). Support interventions: A typology and agenda for research. In S. W. Duck (Ed.), *Handbook of personal relationships: Theory, research, and interventions* (pp. 519-541). New York: Wiley.

Gould, M. S., Fisher, P., Parides, M., Flory, M., & Shaffer, D. (1996). Psychosocial risk factors of child and adolescent completed suicide. *Archives of General Psychiatry, 53*, 1155-1162.

Graber, J. A., & Brooks-Gunn, J. (1996). Transitions and turning points: Navigating the passage from childhood through adolescence. *Developmental Psychology, 32*, 768-776.

Grant, K. E., O'Koon, J. H., Davis, T. H., & Roache, N. A. (2000). Protective factors affecting low income urban African-American youth exposed to stress. *Journal of Early Adolescence, 20*, 4, 388-417.

Greenberger, E., Chen, C., Tally, S. R., & Dong, Q. (2000). Family, peer, and individual correlates of depressive symptomatology among U.S. and Chinese adolescents. *Journal of Consulting and Clinical Psychology, 68*(2), 209-219.

Grossman, D. C., Milligan, B. C., & Deyo, R. A. (1991). Risk factors for suicide attempts among Navajo adolescents. *American Journal of Public Health, 81*, 870-874.

Grucza, R. A., Przybeck, T. R., & Cloninger, C. R. (2005). Personality as a mediator of demographic risk factors for suicide attempts in a community sample. *Comprehensive Psychiatry, 46*, 214– 222. doi:10.1016/j.comppsych.2004.08.006

Gum, A., & Snyder, C. R. (2002). Coping with terminal illness: The role of hopeful thinking. *Journal of Palliative Medicine, 5*, 883–894.

Gunnell, D., Harbord, R., Singleton, N., Jenkins, R., & Lewis, G. (2004). Factors influencing the development and amelioration of suicidal thoughts in the general population. *British Journal of Psychiatry, 185*, 385-393.

Gupta, S., & Pradhan, C. L. (2007). Stress, life events and suicide. *Indian Journal of Preventive & Social Medicine, 38*(3-4), 150-158.

Guyer, B., Lescohier, I., Gallagher, S., Hausman, A., & Azzara, C. V. (1989). Intenational injuries among children and adolescents in Massachusetts. *The New England Journal of Medicine, 321*, 1584-1589.

Hacker, K. A., Suglia, S. F., Fried, L. E., Rappaport, N., & Cabral, H. (2006). Developmental differences in risk factors for suicide attempts between ninth and eleventh graders. *Suicide and Life-Threatening Behavior, 36*(2), 154-166.

Hagerty, B. M. K., Lynch-Sauer, J., Patusky, K. L., Bouwsema, M., & Collier, P. (1992). Sense of belonging: a vital mental health concept. *Archives of Psychiatric Nursing, 6*(3), 172-177.

Hankin, B. L., & Abela, J. R. Z. (2011). Nonsuicidal self-injury in adolescence: Prospective rates and risk factors in a 2 ½year longitudinal study. *Psychiatry Research, 186*, 65–70. doi:10.1016/j.psychres.2010.07.056

Harlow, L. L., Newcomb, M. D., & Bentler, P. M. (1986). Depression, self-derogation, substance use, and suicide ideation: lack of purpose in life as a mediational factor. *Journal of Clinical Psychology, 42*, 5-21.

Harris, T. L., & Molock, S. D. (2000). Cultural Orientation, Family Cohesion, and Family Support in Suicide Ideation and Depression among African American College Students. *Suicide and Life-Threatening Behavior, 30*(4), 341-353.

Harter, S., Marold, D. B., & Whitesell, N. R. (1992). Model of psychological risk factors leading to suicidal ideation in young adolescents. *Developmental Psychopathology, 4,* 167-188.

Hatchett, L., Friend, R., Symister, P., & Wadhua, N. (1997). Interpersonal expectations, social support, and adjustment to chronic illness. *Journal of Personality and Social Psychology, 73,* 560-573.

Hawkins, M. T., & Miller, R. J. (2003). Cognitive vulnerability and resilience to depressed mood. *Australian Journal of Psychology, 55,* 176–183.

Hawton, K. (1987). Assessment of suicide risk. *British Journal of Psychiatry, 150,* 145–153.

Hawton, K., & van Heeringen, K. (2000). *The international handbook of suicide and attempted suicide.* Chichester: Wiley.

Hawton, K., Kingsbury, S. T., Steinhardt, K., James, A., & Fagg, J. (1999). Repetition of deliberate self-harm by adolescents: The role of psychological factors. *Journal of Adolescence, 22,* 369–378.

Heckman, T. G. (2003). The Chronic Illnes Quality of Life (CIQOL) Model: explaining life satisfaction in people living with HIV disease. *Health Psychology, 22,* 140-147.

Heikkinen, M., Aro, H., & Lonnqvist, J. (1994). Recent life events, social support and suicide. *Acta Psychiatrica Scandinavica, 377*(Suppl.), 65-72.

Heisel, M. J., & Fusé., T. (1999). College student suicide ideation in Canada and Japan. *Psychologia: An International Journal of Psychology in the Orient, 42*(3), 129-138.

Heisel, M. J., Flett, G. L., & Hewitt, P. L. (2003). Social hopelessness and college student suicide ideation. *Archives of Suicide Research, 7,* 221-235.

Henderson, S. (1977). The social network, support and neurosis: The function of attachment in adult life. *British Journal of Psychiatry, 131,* 185-191.

Henderson, S. (1981). Social relationships adversity and neuroses on analysis of prospective observation. *British Journal of Psychiatry, 138,* 391-398.

Henry, C. S., Stephenson, A. L., Hanson, M. F. & Hargett, W. (1993). Adolescent suicide and families: an ecological approach. *Adolescence, 28*(110), 291-308.

Herba, C. M., Ferdinand, R. F., Stijnen, T., Veenstra, R., Oldehinkel, A. J., Ormel, J., & Verhulst, F. C. (2008). Victimisation and suicide ideation in the TRAILS study: specific vulnerabilities of victims. *Journal of Child Psychology and Psychiatry, 49*(8), 867–876. doi:10.1111/j.1469-7610.2008.01900.x

Herman-Stahl, M., Stemmler, M., & Petersen, A. C. (1996). Approach and avoidant coping: implications for adolescent mental health. *Journal of Youth and Adolescence, 24*(6), 649-665.

Hesketh, T., Ding, Q. J., & Jenkins, R. (2002). Suicide ideation in Chinese adolescents. *Social Psychiatry and Psychiatric Epidemiology, 37*(5), 230-235.

Hewlett, M. (1998). Resiliency in symptomatic menopausal women: Dispositional optimism, coping strategy, and knowledge as moderators between stress and psychological distress. *Dissertation Abstracts International: Section B: The Science & Engineering, 58(12-B),* 6809.

Hidaka, Y., Operario, D., Takenaka, M., Omori, S., Ichikawa, S., & Shirasaka, T. (2008). Attempted suicide and associated risk factors among youth in urban Japan. *Social Psychiatry and Psychiatric Epidemiology, 43,* 752–757. doi:10.1007/s00127-008-0352-y

Hintikka, J., Koivumaa-Honkanen, H., Lehto, S. M., Honkalampi, T. T. K., Haatainen, K., & Viinamäki, H. (2009). Are factors associated with suicidal ideation true risk factors? A 3-year prospective follow-up study in a general population. *Social Psychiatry and Psychiatric Epidemiology, 44,* 29–33. doi:10.1007/s00127-008-0401-6

Hiramura, H., Shono, M., Tanaka, N., Nagata, T., & Kitamura, T. (2008). Prospective study on suicidal ideation among Japanese undergraduate students: Correlation with stressful life events, depression, and depressogenic cognitive patterns. *Archives of Suicide Research, 12,* 238–250.

Hirsch, J. K. (2003). *An examination of optimism, pessimism and hopelessness as predictors of suicidal ideation in college students: A test of a moderator model.* (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (UMI 3110788)

Hirsch, J. K., & Conner, K. R. (2006). Dispositional and explanatory style optimism as potential moderators of the relationship between hopelessness and suicidal ideation. *Suicide and Life-Threatening Behavior, 36*(6), 661-669.

Hirsch, J. K., & Ellis, J. B. (1996). Differences in life stress and reasons for living among college student suicide ideators and non-ideators. *College Student Journal, 30,* 377- 386.

Hirsch, J. K., Conner, K. R., & Duberstein, P. R. (2007). Optimism and suicide ideation among young adult college students. *Archives of Suicide Research, 11,* 177-185.

Hirsch, J. K., Duberstein, P., Conner, K. R., Heisel, M. J., Beckman, A., & Conwell, Y. (2007a). Future orientation and suicide ideation and attempts in depressed adults ages 50 and over. *American Journal of Geriatric Psychiatry, 14,* 752–757.

Hirsch, J. K., Duberstein, P., Conner, K. R., Heisel, M. J., Beckman, A., & Conwell, Y. (2007b). Future orientation moderates the relationship between functional status and suicide ideation in depressed adults. *Depression and Anxiety, 24*(3), 196–201.

Hirsch, J. K., Wolford, K., LaLonde, S. M., Brunk, L., & Morris, A. P. (2007). Dispositional optimism as a moderator of the relationship between negative life events and suicide ideation and attempts. *Cognitive Therapy and Research, 31,* 533–546. doi:10.1007/s10608-007-9151-0

Hirsch, J. K., Wolford, K., LaLonde, S. M., Brunk, L., & Parker-Morris, A. (2009). Optimistic explanatory style as a moderator of the association between negative life events and suicide ideation. *Crisis, 30*(1), 48–53.

Ho, B. K. W., Hong, C., & Heok, K. E. (1999). Suicidal behavior among young people in Singapore. *General Hospital Psychiatry, 21,* 128-133.

Hobfoll, S. E. (1989). Conservation of resources: A new attempts at conceptualizing stress. *American Psychologist, 44*(3), 513-524.

Hobfoll, S. E., & Vaux, A. (1993). Social support: Social resource and social context. In L. Goldberger & S. Breznitz (Eds.), *Handbook of stress: Theoretical and clinical aspects* (2nd ed.; pp. 585-705), New York: Free Press.

Hogan, B. E., Linden, W., & Najarian, B. (2002). Social support interventions: do they work? *Clinical Psychology Review, 22,* 381-440.

Hollis, C. (1996). Depression, family environment, and adolescent suicidal behavior. *Journal of the American Academy of Child and Adolescent Psychiatry, 35*(5), 622-630.

Holmbeck, G. N. (2002). Post-hoc probing of significant moderational and mediational effects in studies of pediatric populations. *Journal of Pediatric Psychology, 27,* 87-96.

Holmes, T., & Rahe, R. (1967). The social readjustment rating scale. *Journal of Psychosomatic Research, 12,* 213-233.

House, J. S. (1981). *Work stress and social support.* Reading, MA: Addison-Wesley.

House, J. S. (1985). Barriers to work stress: I. Social Support. In W. D. Gentry, H. Benson, & C. DeWolff (Eds.), *Behavioural medicine: Work, stress, and health* (pp. 157-180). The Hague: Martinus Nijhoff.

House, J. S., & Kahn, R. L., (1985). Measures and concepts of social support. In S. Cohen. & S. L. Syme (Eds.), *Social Support and Health* (pp. 83-108). New York: Academic Press.

House, J. S., Robbins, C., & Metzer, H. C. (1982). The association of social relationships and activities with normality: Prospective evidence from the Tecumech Community Health Study. *American Journal of Epidemiology, 116,* 123-140.

Hovey, H. (1999). Moderating influence of social support on suicidal ideation in a sample of Maxican immigrants. *Psychological Reports, 85*(1), 78-79.

Howard-Pitney, B., LaFromboise, T. D., Basil, M., September, B., & Johnson, M. (1992). Psychological and social indicators of suicide ideation and suicide attempts in Zuni adolescents. *Journal of Consulting and Clinical Psychology, 60,* 473-476.

Huang, C. Y., &. Guo, S. E. (2009). Stress, perceived support, resourcefulness and depressive symptoms in Taiwanese adolescents. *Journal of Clinical Nursing, 18,* 3271–3279. doi:10.1111/j.1365-2702.2009.02899.x

Huang, C. Y., Sousa, V. D., Tu, S. Y., & Hwang, M. Y. (2005). Depressive Symptoms and Learned Resourcefulness Among Taiwanese Female Adolescents. *Archives of Psychiatric Nursing, 19*(3), 133–140. doi:10.1016/j.apnu.2005.04.005

Huff, C. O. (1999). Source, recency and degree of stress in adolescence and suicide ideation. *Adolescence, 34*(133), 81-89.

Humphrey, J. H. (1988). *Teaching children to relax.* Springfield. II: Thomas Brooks.

Hurley-Wilson, B. (1993). Perception, appraisal and meaning as mediators of the stress-health linkage. In J. S. Barnfather & B. L. Lyon (Eds.), *Stress and coping: State of the science and the implications for nursing, research and practice* (pp.129-149). Indianapolis, IN: Stigma Theta Tau International.

Hurlock, E. B. (1968). *The developmental Psychology.* New York: McGraw-Hill Publishing C.

Husain, A., Rashid, T., & Jahan, M. (2006). Student Stress Scale. In A. Hussain & M. I. Khan (Eds.), *Recent Trends in Human Stress Management* (pp. 254-257). New Delhi: Global Vision Publishing House.

Hussain, A., Kumar, A., & Hussain, A. (2008). Academic stress and adjustment among high school students. *Journal of the Indian Academy of Applied Psychology, 34,* 70-73.

Iga, M. (1981). Suicide of Japanese youth. *Suicide and Life-Threatening Behavior, 11,* 17-30.

Inskip, H. M., Harris, E. C., & Barraclough, B. (1998). Lifetime risk of suicide for affective disorder, alcoholism and schizophrenia. *British Journal of Psychiatry, 172,* 35–37.

Inui J. A., Kitaoka, H., Majima, M., Takamiya, S., Uemoto, M., Yonenaga, C., ...Taniguchi, H. (1998). Effect of the Kobe earthquake on stress and glycemic control in patients with diabetes mellitus. *Archives of Internal Medicine, 158*(3), 274-278.

Irving, L., Snyder, C., & Crowson, J. (1998). Hope and coping with cancer by college women. *Journal of Personality, 22,* 195-214.

Ivancevich, J. M., & Matteson, M. T. (1988). Promoting the individual's health and wellbeing. In C. L. Cooper & R. Payne (Eds.), *Causes, coping and consequences of stress at work* (pp. 267-299). Chichester: Wiley.

Izadinia, N., Amiri, M., Jahromi, R. G., & Hamidi, S. (2010). A study of relationship between suicidal ideas, depression, anxiety, resiliency, daily stresses and mental health among Tehran university students. *Procedia-Social and Behavioral Sciences, 5,* 1515–1519. doi:10.1016/j.sbspro.2010.07.335

Jaccard, J., & Turrisi, R. (2003). *Interaction effects in multiple regression* (4th ed.). California: Sage Publications.

Jackson, T., Fritch, A., Nagasaka, T., & Gunderson, J. (2002). Towards explaining the association between shyness and loneliness: A path analysis with American college students. *Social Behavior and Personality, 30,* 263-270.

Jacob, K. S. (2008, December 15). Public health strategies for suicide prevention. *The Hindu,* pp. 10.

Jacobs, D. (Ed.). (1999). *The Harvard Medical School guide to suicide assessment and intervention.* San Francisco: Jossey Bass.

Jacobs, J. (1971). *Adolescent suicide.* New York: John Wiley.

Joglic, E. L., Pepper, C. M., Vanderhoff, H. A., & Ryabchenko, K. A. (2007). An Analysis of Suicidal Ideation in a College Sample. *Archives of Suicide Research, 11*, 41–56.

Jemmott, J. B., & Locke, S. E. (1984). Psychosocial factors, immunologic mediation, and human susceptibility to infectious diseases: How much do we know? *Psychological Bulletin, 95*, 78-108.

Jenkins, J., & Smith, M. A. (1990). Factors protecting children living in disharmonious homes: Maternal reports. *Journal of the American Academy of Child and Adolescent Psychiatry, 29*, 60-69.

Johns, D., & Holden, R. R. (1997). Differentiating suicidal motivations and manifestations in a nonclinical population. *Canadian Journal of Behavioural Science, 29*(4), 266-274.

Johnson, J., Gooding, P. A., Wood, A. M., & Tarrier, N. (2010). Resilience as positive coping appraisals: Testing the schematic appraisals model of suicide (SAMS). *Behaviour Research and Therapy 48*, 179–186. doi:10.1016/j.brat.2009.10.007

Jou, Y. H. (1994). The dimensions of social support for Chinese students in Japan: The relationships among needs for support, perceived support and received support. *Research in Social Psychology, 9*, 106-114. (In Japanese, English summary provided).

Juon, H. S., Nam, J. J., & Ensminger, M. E. (1994). Epidemiology of suicidal behavior among Korean adolescents. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 35*(4), 663-676.

Jutengren, G., Kerr, M., & Stattin, H. (2011). Adolescents' deliberate self-harm, interpersonal stress, and the moderating effects of self-regulation: A two-wave longitudinal analysis. *Journal of School Psychology, 49*, 249-264. doi:10.1016/j.jsp.2010.11.001

Kahn, J. H., Hessling, R. M., & Russell, D. W. (2003). Social support, health, and well-being among the elderly: what is the role of negative affectivity? *Personality and Individual Differences, 35*, 5-17.

Kahn, R. L. (1979). Aging and social support. In M.W. Riley (Ed.), *Aging from birth to death. Interdisciplinary Perspective* (pp. 77-91). Boulder, Co. West view Press.

Kahn, R. L., & Autonucci, T. (1980). Convoys over the life-course. Altachment roles and social support. In P. B. Balters & S. O. Brim (Eds.), *Life-span development and behaviour* (Vol. 3, pp. 254-286). Boston: Lexington Press.

Kaltiala-Heino, R., Rimpelä, M., Marttunen, M., Rimpelä, A., & Rantanen, P. (1999). Bullying, depression, and suicidal ideation in Finnish adolescents: school survey. *BMJ, 319,* 348-351.

Kanner, A. D., Cyne, J. C., Schaefer, C., & Lazarus, R. S. (1981). Comparison of two models of stress measurement: Daily hassles and uplifts versus major life events. *Journal of Behavioural Medicine, 4,* 1-39.

Kaplan, B., Cassel, J., & Gore, S. (1977). Social support and health. *Medical Care, 15*(5 Suppl.), 47-58.

Kashani, J. H., Goddard, P., & Reid, J. C. (1989). Correlates of suicidal ideation in a community sample of children and adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry, 28,* 912-917.

Kasl, S. V., & Cooper, C. L. (Eds.). (1987). *Stress and Health: Issues in Research Methodology.* Chichester: Wiley.

Kazarian, S. S., & McCabe, S. B. (1991). Dimensions of support in the MSPSS: Factorial structure, reliability, and theoretical implications. *Journal of Community Psychology, 19,* 150-160.

Kerr, D. C. R., Preuss, L. J., & King, C. A. (2006). Suicidal adolescents' social support from family and peers: Gender-specific associations with psychopathology. *Journal of Abnormal Child Psychology, 34*(1), 103–114.

Kessler, R. C. (1992). Perceived support and adjustment to stress: Methodological considerations. In H. O. F. Veiel & U. Baumann (Eds.), *The meaning and measurement of social support* (pp. 259-271). Washington, DC: Hemisphere.

Kessler, R. C., & McLeod, J. D. (1985). Social support and mental health in community samples. In S. Cohen & S. L. Syme (Eds.), *Social support and health* (pp. 219-240). San Diego, CA: Academic Press.

Kessler, R. C., Borges, G., & Walters, E. E. (1999). Prevalence of and risk factors for lifetime suicide attempts in the National Comorbidity Survey. *Archives of General Psychiatry, 56,* 617-633.

Khosla, M., & Hanghal, E. N. (2004). The role of optimism and pessimism in coping with stress. *Journal of Personality and Clinical Studies, 20,* 71-78.

Kidd, S., Henrich, C. C., Brookmeyer, K. A., Davidson, L., King, R. A., & Shahar, G. (2006). The social context of adolescent suicide attempts: Interactive effects of parent, peer, and school social relations. *Suicide and Life-Threatening Behavior, 36*(4), 386-395.

Kienhorst, C. W. M., De Wilde, E. J., Van Den Bout, J., Diekstra, R. F. W., & Wolters, W. H. G. (1990). Characteristics of suicide attempters in a population-based sample of Dutch adolescents. *British Journal of Psychiatry, 156,* 243-248.

Kim, E., & Cain, K. C. (2008). Korean American adolescent depression and parenting. *Journal of Child and Adolescent Psychiatric Nursing, 21*(2), 105–115.

Kim, Y. S., Koh, Y. J., & Leventhal, B. (2005). School Bullying and Suicidal Risk in Korean Middle School Students. *Pediatrics, 115,* 357-363. doi:10.1542/peds.2004-0902

King, C. A. (1997). Suicidal behavior in adolescence. In R. W. Maris, M. M. Silverman, & S. S. Canetto (Eds.), *Review of suicidology* (pp. 61–95). New York: Guilford Press.

King, C. A., Segal, H., Kaminski, K., Naylor, M. W., Ghaziuddin, N., & Radpour, L. (1995). A prospective study of adolescent suicidal behavior following hospitalization. *Suicide and Life- Threatening Behavior, 25,* 327-338.

King, C. A., Segal, H., Naylor, M., & Evans, T. (1993). Family functioning and suicidal behavior in adolescent inpatients with mood disorders. *Journal of the American Academy of Child and Adolescent Psychiatry, 32,* 1198–1206.

King, K. B. (1997). Psychological and social aspects of cardiovascular disease. *Annals of Behavioral Medicine, 19,* 264-270.

King, R. A., Schwab-Stone, M., Flisher, A. J., Greenwald, S., Kramer, R. A., Goodman, S. H., ...Gould, M. S. (2001). Psychosocial and risk behavior correlates of youth suicide attempts and suicidal ideation. *Journal of the American Academy of Child and Adolescent Psychiatry, 40*(7), 837–846.

Kleinman, L., (2000). The relationship between psychological factors and diabetes control. *Dissertation Abstracts International: Section B: The Science & Engineering, 61(5-B),* 2766.

Klomek, A. B., Marrocco, F., Kleinman, M., Schonfeld, I. S., & Gould, M. S. (2008). Peer victimization, depression, and suicidiality in adolescents. *Suicide and Life-Threatening Behavior, 38*(2), 166-180.

Konick, L. C., & Gutierrez, P. M. (2005). Testing a model of suicide ideation in college students. *Suicide and Life-Threatening Behavior, 35*(2), 181-192.

Kotila, L. (1992). The outcome of attempted suicide in adolescence. *Journal of Adolescent Health, 13,* 415-417.

Kumar, C. T. S., & Chandrasekaran, R. (2000). A study of psychosocial and clinical factors associated with adolescent suicide attempts. *Indian Journal of Psychiatry, 42*(3), 237-242.

Kumar, S., & Singh, A. P. (2006). Stress state and its relationship with academic performance among students. In A. Husain & M. I. Khan (Eds.), *Recent trends in human stress management* (pp. 55-66). New Delhi: Global Vision Publishing House.

Kumari, H., & Prakash, J. (1986). Life stress and mental health: a study of age and sex-differences. *Journal of Personality & Clinical Studies, 2,* 10-37.

Kumari, K., & Sharma, S. (1990). Social support, organizational role stress and well being: A study of medicos. *Psychological Studies, 35,* 163-169.

Kurtz, L., & Derevensky, J. L. (1993). Stress and coping in adolescents: The effects of family configuration, and environment on suicidality. *Canadian Journal of School Psychology, 9*(2), 204-216.

Kwok, S. Y. C. L., & Shek, D. T. L. (2011). Family processes and suicidal ideation among Chinese adolescents in Hong Kong. *TheScientificWorldJOURNAL: TSW Child Health & Human Development, 11.* 27–41. doi:10.1100/tsw.2011.1.

Laghi, F., Baiocco, R., D'Alessio, M., & Gurrieri, G. (2009). Suicidal ideation and time perspective in high school students. *European Psychiatry. 24.* 41-46. doi:10.1016/j.eurpsy.2008.08.006

Lai, K. W., & McBride-Chang, C. (2001). Suicidal ideation, parenting style, and family climate among Hong Kong adolescents. *International Journal of Psychology, 36*(2), 81–87.

Lalwani, S., Sharma, G. S., Kabra, S. K., Girdhar, S., & Dogra, T. D. (2004). Suicide among children and adolescents in South Delhi (1991-2000). *Indian Journal of Pediatric, 71*(8), 701-703.

Lara, M. E., Leader, J., & Klein, D. N. (1997). The association between social support and course of depression: is it confounded with personality? *Journal of Abnormal Psychology. 106,* 478-482.

Latha, K. S., Bhat, S. M., & D'Souze, P. (1994). Attempted suicide and recent stressful events: A report from India. *Crisis, 15*(3), 136.

Laukkanen, E., Honkalampi, K., Hintikka, J., Hintikka, U., & Lehtonen, J. (2005). Suicidal ideation among help-seeking adolescents: Association with a negative self-image. *Archives of Suicide Research, 9,* 45–55. doi:10.1080/13811110590512930

Laukkanen, E., Rissanen, M. -L., Honkalampi, K., Kylmä, J., Tolmunen, T., & Hintikka, J. (2009). The prevalence of self-cutting and other self-harm among 13- to 18-year-old Finnish adolescents. *Social Psychiatry and Psychiatric Epidemiology, 44,* 23–28. doi:10.1007/s00127-008-0398-x

Lazarus, R. S. (1966). *Psychological stress and the coping process.* New York: McGraw-Hill.

Lazarus, R. S. (1976). *Patterns of Adjustment.* New York: McGraw-Hill.

Lazarus, R. S. (1977). Cognitive and coping processes in emotion. In A. Monet & R. S. Lazarus (Eds.), *Stress and coping* (pp. 145-158). New York: Columbia University Press.

Lazarus, R. S. (1991). Progress on a cognitive-motivational-relational theory of emotion. *American Psychologist, 46,* 819-834.

Lazarus, R. S., & Delongis, A. (1983). Psychological stress and coping in aging. *American psychologist, 38,* 245-254.

Lazarus, R. S., & Folkman, S. (1984). *Stress, Appraisal, and Coping.* New York: Springer.

Leana, C. R., & Feldman, D. D. (1992). *Coping with job loss.* New York: Lexington Box.

Lebwohl, M., & Tan, M. H. (1998). Psoriasis and stress. *Lancet, 351*(9096), 82.

Lee, M. T. Y., Wong, B. P., Chow, B W.-Y., & McBride-Chang, C. (2006). Predictors of suicide ideation and depression in Hong Kong adolescents: Perceptions of academic and family climates. *Suicide and Life-Threatening Behavior, 36*(1), 82-96.

Lee, S., Tsang, A., Li, X. Y, Phillips, M. R., & Kleinman, A. (2007). Attitudes toward suicide among Chinese people in Hong Kong. *Suicide and Life-Threatening Behavior, 37*(5), 565-575.

Leiter, M. P. (1991). Coping patterns as predictors of burnout: the function of control and escape patterns. *Journal of Occupational Behavior, 12,* 123-144.

LeMaster, P. L., Beals, J., Novins, D. K., Manson, S. M., & the AI-SUPERPFP Team (2004). The prevalence of suicidal behaviors among Northern Plains American Indians. *Suicide and Life-Threatening Behavior, 34*(3), 242-254.

Lester, D. (1991). A brief introduction to the stages of development. In A. Leenaars (Ed.), *Life span perspectives of suicide time-lines in the suicide process.* New York: Plenum Press.

Lester, D. (1992). *Why People Kill Themselves A Summary of Research Findings on Suicidal Behavior.* Springfield, DL: Charles C Thomas.

Lester, D., Agarwal, K., & Natarajan, M. (1999). Suicide in India. *Archives of Suicide Research, 5,* 91-96.

Levendosky, A. A., Huth-Bocks, A., & Semel, M. A. (2002). Adolescent, peer relationships and mental health functioning in families with domestic violence. *Journal of Clinical Child and Adolescent Psychology, 31,* 206-218.

Levy, S. M., & Wise, S. D. (1987). Psychological risk factors, natural immunity, and cancer progression: Implications for intervention. *Current Psychological Research and Reviews, 6,* 229-243.

Lewinsohn, P. M., Rohde, P., & Seeley, J. R. (1993). Psychosocial characteristics of adolescents with a history of suicide attempt. *Journal of the American Academy of Child and Adolescent Psychiatry, 32,* 60–68.

Lewinsohn, P. M., Rohde, P., & Seeley, J. R. (1994). Psychosocial risk factors for future adolescent suicide attempts. *Journal of Consulting and Clinical Psychology, 62,* 297–305.

Liang, H., Flisher, A. J., & Lombard, C. J. (2007). Bullying, violence, and risk behavior in South African school students. *Child Abuse & Neglect, 31,* 161–171. doi:10.1016/j.chiabu.2006.08.007

Lin, H. C., Tang, T. C., Yen, J. Y., Ko, C. H., Huang, C. F., Liu, S. C., & Yen, C. F. (2008). Depression and its association with self-esteem, family, peer and school factors in a population of 9586 adolescents in southern Taiwan. *Psychiatry and Clinical Neurosciences, 62,* 412–420. doi:10.1111/j.1440-1819.2008.01820.x

Linehan, M., Rizvi, S., Welch, S., & Page, B. (2000). Psychiatric aspects of aspect of suicidal behavior: Personality disorders. In K. Hawton & K. van Heeringen (Eds.), *The international handbook of suicide and attempted suicide* (pp. 147-178). Chichester: Wiley.

Liu, R. X. (2004). The conditional effects of gender and delinquency on the relationship between emotional distress and suicidal ideation or attempt among youth. *Journal of Adolescent Research, 19*(6), 698-715.

Liu, X., Tein, J.-Y., Zhao, Z., & Sandler, I. N. (2005). Suicidality and correlates among rural adolescents of China. *Journal of Adolescent Health, 37,* 443–451.

Logaraj, M., Felix, J. W., & Vedapriya, D. R. (2005). Attempted suicide in adolescents reported at a medical college hospital in Tamilnadu-some observations. *Indian Journal of Preventive and Social Medicine, 36,* 68-72.

Londy, C. C. L. (1995). *Suicidal ideation of adolescents: A study of the role of stress and support from family and peer* (Master's thesis). University of Hong Kong. Retrieved from http://hub.hku.hk/handle/10722/30175

Long, B., & Sangster, J. (1993). Dispositional optimism/pessimism and coping strategies: Predictors of psychosocial adjustment of rheumatoid and osteoarthritis patients. *Journal of Applied Social Psychology, 23*(13), 1069-1091.

Lonnqvist, J., (2000). Psychiatric aspects of suicidal behavior: Depression. In K. Hawton & K. van Heeringen (Eds.), *The international handbook of suicide and attempted suicide* (pp. 107-120). Chichester: Wiley.

Luscomb, R. L, Clum, R. A., & Patsiokas, A. T. (1980). Mediating factors in the relationship between life stress and suicide attempting. *Journal of Nervous and Mental Disorder, 168,* 644-650.

Lynch, J. (1977). *The broken heart.* New York: Basic.

Lynch, T. R., Johnson, C. S., Mendelson, T., Robins, C. J., Krishnan, K. R. K., & Blazer, D. G. (1999). New onset and remission of suicidal ideation among a depressed adult sample. *Journal of Affective Disorders, 56*(1), 49-54.

Lyubomirsky, S., & Lepper, H. (1999). A measure of subjective happiness: Preliminary reliability and construct validation. *Social Indicators Research, 46,* 137–155.

Mack, J. E. (1989). Adolescent suicide: An architectural model. In D. Jacobs & H. N. Brown (Eds.), *Suicide: Understanding & responding* (pp. 221-237). U.S.A.: International Universities Press.

Mackenzie, S., Wiegel, J. R., Mundt, M., Brown, D., Saewyc E., Heiligenstein, E., ...Fleming, M. (2011). Depression and suicide ideation among students accessing campus health care. *American Journal of Orthopsychiatry, 81*(1), 101–107. doi:10.1111/j.1939-0025.2010.01077.x

Madu, S. N., & Matla, M. Q. P. (2004). Family environmental factors as correlates for adolescent suicidal behaviors in the Limpopo Province of South Africa. *Social Behavior and Personality, 32*(4), 341-354.

Magaletta, P., & Oliver, J. (1999). The hope construct, will, and ways: Their relations with self-efficacy, optimism, and general well-being. *Journal of Clinical Psychology, 55*(5), 539-551.

Major, B., Cozzarelli, C., Sciacchitano, A. M., Cooper, M. L., Testa, M., & Mueller, P. M. (1990). Perceived social support, self-efficacy, and adjustment to abortion. *Journal of Personality and Social Psychology, 59*, 452–463.

Manani, P., & Sharma, S. (2011). Examination anxiety as a determinant of suicidal ideation. *The International Journal's: Research Journals of Social Sciences and Management, 1*(1), 82-90.

Manson, S. M., Beals, J., Dick, R. W., & Duclos, C. (1989). Risk factors for suicide among Indian adolescents at a boarding school. *Public Health Reports, 104*, 609–614.

Marcenko, M. O., Fishman, G., & Friedman, J. (1999). Reexamining adolescent suicidal ideation: a developmental perspective applied to a diverse population. *Journal of Youth and Adolescence, 28*, 121–138.

Marks, P. A., & Haller, D. L. (1977). Now I lay me down for keeps: A study of adolescent suicide attempts. *Journal of Clinical Psychology, 33*, 390-400.

Martin, G., Richardson, A. S., Bergen, H. A., Roeger, L., & Allison, S. (2005). Perceived academic performance, self-esteem and locus of control as indicators of need for assessment of adolescent suicide risk: implications for teachers. *Journal of Adolescence, 28*, 75–87. doi:10.1016/j.adolescence.2004.04.005

Marttunen, M. J., Aro, H. M., & Lonnqvist, J. K. (1992). Adolescent suicide: endpoint of long-term difficulties. *Journal of the American Academy of Child and Adolescent Psychiatry, 31*(4), 649-654.

Masuda, M., & Holmes, T. H. (1967). Magnitude estimations of social readjustments. *Journal of Psychosomatic Research, 11*, 219-225.

Matlin, S. L., Molock, S. D., & Tebes, J. K. (2011). Suicidality and depression among African American adolescents: The role of family and peer support and community connectedness. *American Journal of Orthopsychiatry, 81*(1), 108–117. doi:10.1111/j.1939-0025.2010.01078.x

Mazza, J., & Reynolds, W. (1998). A longitudinal investigation of depression, hopelessness, social support, and major and minor life events and their relation to suicidal ideation in adolescents. *Suicide and Life-Threatening Behavior, 28*, 358–374.

McAuliffe, C., Corcoran, P., Keeley, H. S., & Perry, I. J. (2003). Risk of suicide ideation associated with problem solving ability and attitude toward suicidal behaviour in university students. *Crisis, 24*(4), 160-167.

McGlashan, T. H. (1986). The Chestnut Lodge follow-up study: III. Longterm outcome of borderline personalities. *Archives of General Psychiatry, 43*, 2-30.

McGraw, K., Moore, S., Fuller, A., & Bates, G. (2008). Family, peer and school connectedness in final year secondary school students. *Australian Psychologist, 43*(1), 27 – 37. doi:10.1080/00050060701668637

McIntosh, J. (1996). *Definition of suicidal ideation.* Retrieved May 28, 2002, from http://www.iusb.edu/~jmcintos/depovh.pdf

McKenna, E. (1994). *Business psychology and organizational behavior.* Hove, UK: Erlbaum.

McLeod, A. (2004). Suicide and attempted suicide. In M. Power (Ed.), *Mood disorders. A handbook of science and practice* (pp. 319-335). Chichester: Wiley.

McMahon, E. M., Reulbach, U., Keeley, H., Perry, I. J., & Arensman, E. (2010). Bullying victimisation, self harm and associated factors in Irish adolescent boys. *Social Science & Medicine, 71*, 1300-1307. doi:10.1016/j.socscimed.2010.06.034

Merchant, C., Kramer, A., Joe, S., Venkataraman, S., & King, C. A. (2009). Predictors of multiple suicide attempts among suicidal black adolescents. *Suicide and Life-Threatening Behavior, 39*(2), 115-124.

Mikulincer, M., & Florian, V. (1998). The relationship between adult attachment style and emotional styles and emotional and cognitive reactions to stressful events. In J. A. Simpson & W. S. Rhodes (Eds.), *Attachment theory and close relationships* (pp. 143-165). New York: Guilford.

Miller, A. L., & Glinski, J. (2000). Youth suicidal behavior: Assessment and intervention. *Journal of Clinical Psychology, 56,* 1131-1152.

Miller, D., Manne, S., Taylor, K., Keates, J., & Dougherty, J. (1996). Psychological distress and well-being in advanced cancer: The effects of optimism and coping. *Journal of Clinical Psychology in Medical Settings, 3,* 115-130.

Miller, K. E., King, C. A., Shain, B. N., & Naylor, M. W. (1992). Suicidal adolescents' perceptions of their family environment. *Suicide and Life Threatening Behaviour, 22*(2), 226-239.

Mohsin, S. M. (1984). *Research method in behavioral sciences.* Orient Longmand Limited, ISBN.

Morano, C. D., Cisler, R. A., & Lemerond, J. (1993). Risk factors for adolescent suicidal behavior: Loss, insufficient familial support, and hopelessness. *Adolescence, 28,* 851-865.

Morion, M. S., & Range, L. M. (2003). African American college women's suicide buffers. *Suicide and Life-Threatening Behavior, 33*(1), 33-43.

Mueller, D. P. (1980). Social networks: A promising direction for research on the relationship of the social environment to psychiatric disorder. *Social Science & Medicine, 14A,* 147-161.

Mullis, R. L., Youngs, G. A., Mullis, A. K., & Rathge, R. W. (1993). Adolescent stress: Issues of measurement. *Adolescence, 28*(110), 267-279.

Murphy, G. (2000). Psychiatric aspects of suicidal behavior: Substance abuse. In K. Hawton & K. van Heeringen (Eds.), *The international handbook of suicide and attempted suicide* (pp. 135-146). Chichester: Wiley.

National Crime Record Bureau (1999). *Accidental Deaths and Suicides in India.* New Delhi: Ministry of Home Affairs, Government of India.

National Crime Record Bureau (2005). *Accidental Deaths and Suicides in India.* New Delhi: Ministry of Home Affairs, Government of India.

National Crime Record Bureau (2006). *Accidental Deaths and Suicides in India.* New Delhi: Ministry of Home Affairs, Government of India.

National Crime Record Bureau (2010). *Accidental Deaths and Suicides in India.* New Delhi: Ministry of Home Affairs, Government of India.

Nelson, R. E., & Crawford, B. (1990). Suicide among elementary school-aged children. *Elementary School Guidance and Counseling, 25,* 123–128.

Nezu, A. M. (1985). Differences in psychological distress between effective and ineffective problem solvers. *Journal of Counseling Psychology, 32,* 135-138.

Nezu, A. M. (1986). Effects of stress from current problems: Comparison to major life events. *Journal of Clinical Psychology, 42,* 847-852.

Noh, M. O. (1984). *The effect of anxiety on physical health for female final year students in Senior High School.* Unpublished MS Thesis, Ewha Women's University.

Nolen-Hoeksema, S. (2000). Growth and resilience among bereaved people. In J. Gillham (Ed.), *The science of optimism and hope* (pp. 107-127). Philadelphia: Templeton Foundation Press.

Novins, D. K., Beals, J., Roberts, R. E., & Manson, S. M. (1999). Factors associated with suicidal ideation among American Indian adolescents: Does culture matter? *Suicide and Life-Threatening Behavior, 29,* 332–346.

O'Carroll, P. W., Berman, A. L., Maris, R. W., Moscicki, E. K., Tanney, B. L., & Silverman, M. M. (1996). Beyond the Tower of Babel: A nomenclature for suicidology. *Suicide and Life-Threatening Behavior, 26,* 237-252.

O'Connor, R. C., Rasmussen, S., & Hawton, K. (2010). Predicting depression, anxiety and self-harm in adolescents: The role of perfectionism and acute life stress. *Behaviour Research and Therapy, 48,* 52–59. doi:10.1016/j.brat.2009.09.008

O'Connor, R. C., Rasmussen, S., Miles J., & Hawton, K. (2009). Self-harm in adolescents: self-report survey in schools in Scotland. *The British Journal of Psychiatry, 194,* 68–72. doi:10.1192/bjp.bp.107.047704.

O'Donnell, L., O'Donnell, C., Wardlaw, D. M., & Stueve, A. (2004). Risk and resiliency factors influencing suicidality among urban African American and Latino youth. *American Journal of Community Psychology, 33,* 37-49.

O'Leary, A. (1990). Stress, emotion, and human immune function. *Psychological Bulletin, 108,* 363-382.

O'Connor, R. C., Fraser, L., Whyte, M. C., MacHale, S., & Masterton, G. (2008). A comparison of specific positive future expectancies and global hopelessness as predictors of suicidal ideation in a prospective study of repeat self-harmers. *Journal of Affective Disorders, 110,* 207–214.

Ohannessian, C. M., Lerner, R. M., Lerner, J. V., & von Eye, A. (1994). A longitudinal study of perceived family adjustment and emotional adjustment in early adolescence. *Journal of Early Adolescence, 14*(3), 371-390.

Page, R. M., & West, J. H. (2011). Suicide ideation and psychosocial distress in Sub-Saharan African youth. *American Journal of Health Behavior, 35*(2), 129-141.

Palmer, C. J. J. (2001). African Americans, depression, and suicide risk. *Journal of Black Psychology, 27*(1), 100-111.

Palsane, M. N., & Ram, U. (1999). Illness and well-being in relation to stress, personality and culture. In G. Mishra (Ed.), *Psychological perspectives on stress and health* (pp. 39-54). New Delhi: Concept Publishing Company.

Park, H. S., Schepp, K. G., Jang, E. H., & Koo, H. Y. (2006). Predictors of suicidal ideation among high school students by gender in South Korea. *Journal of School Health, 76*(5), 181-188.

Park, I. J. K., Kim, P. Y., Cheung, R. Y. M., & Kim, M. (2010). The role of culture, family processes, and anger regulation in Korean American adolescents' adjustment problems. *American Journal of Orthopsychiatry, 80*(2), 258–266. doi:10.1111/j.1939-0025.2010.01029.x

Parkes, C. M. (1972). *Bereavement.* New York; International University Press.

Pashkow, F. J. (1999). Is stress linked to heart disease? *Cleveland Clinic Journal of Medicine, 66*(2), 75-77.

Paulson, B. L., & Everall, R. D. (2001). The teen suicide research project. *Alberta Journal of Educational Research, 47*(1), 91-94.

Paykel, E. (1971). Life stress. In L. Hankoff & B. Einsidler (Eds.), *Suicide* (pp. 225-234). Linttleton, MA: PSG.

Paykel, E. S., Myers, J. K., Lindenthal, J. J., & Tanner, J. (1974). Suicidal feelings in the general population: A prevalence study. *British Journal of Psychiatry, 124,* 460-469.

Paykel, E. S., Prusoff, B. A., & Meyers, J. K. (1975). Suicide attempts and recent life events: A controlled comparison. *Archives of General Psychiatry, 32,* 327-333.

Pearlin, L. I. (1989). The sociological study of stress. *Journal of Health and Social Behaviour, 30,* 241-256.

Peirce, R. S., Frone, M. R., Russell, M., Cooper, M. L., & Mudar, P. (2000). A longitudinal model of social contact, social support, depression, and alcohol use. *Health Psychology, 19,* 28-38.

Peltzer, K., Kleintjes, S., Wyk, B. V., Thompson, E. A., & Mashego, T. A. B. (2008). Correlates of suicide risk among secondary school students in Cape Town. *Social Behavior and Personality, 36*(4), 493-502.

Perkins, D. F., & Hartless, G. (2002). An ecological risk-factor examination of suicide ideation and behavior of adolescents. *Journal of Adolescent Research, 17,* 3-26.

Peter, T., Roberts, L. W., & Buzdugan, R. (2008). Suicidal ideation among Canadian youth: A multivariate analysis. *Archives of Suicide Research, 12,* 263–275.

Petersen, A. C., Sarigiani, P. A., & Kennedy, R. E. (1991). Adolescent depression: why more girls? *Journal of Yauth and Adolescence, 20*(2), 247-271.

Peterson, C. (2000a). Optimistic explanatory style and health. In J. Gillham (Ed.), *The science of optimism and hope* (pp. 145-162). Philadelphia, PA: Templeton Foundation Press.

Peterson, C. (2000b). The future of optimism. *American Psychologist, 55,* 44-55.

Peterson, C., & Barrett, L. (1987). Explanatory style and academic performance among university freshmen. *Journal of Personality and Social Psychology, 53,* 603-607.

Peterson, C., Seligman, M., & Vaillant, G. (1988). Pessimistic explanatory style is a risk factor for physical illness: A thirty-five year longitudinal study. *Journal of Personality and Social Psychology, 55,* 23-27.

Petrie, K., Chamberlain, K., & Clarke, D. (1988). Psychological predictors of future suicidal behaviour in hospitalized suicide attempters. *British Journal of Clinical Psychology, 27,* 247-257.

Petzel, S. V., & Riddle, M. (1981). Adolescent suicide: Psychosocial and cognitive aspects. *Adolescent Psychiatry, 9,* 342-398.

Pfeffer, C. R., Conte, H. R., Plutchik, R., & Jerrett, L. (1979). Suicidal behavior in latency aged children: An empirical study. *Journal of American Child Psychiatry, 18,* 679-692.

Pfeffer, C. R., Conte, H. R., Plutchik, R., & Jerrett, L. (1980). Suicidal behavior in latency aged children: An outpatient population. *Journal of American Child Psychiatry, 19,* 703-710.

Phelps, S., & Jarvis, P. (1994). Coping in adolescence: Empirical evidence for a theoretically based approach to assessing coping. *Journal of Youth and Adolescence, 23,* 359-371.

Pillai, A., Andrews, T., & Patel, V. (2009). Violence, psychological distress and the risk of suicidal behaviour in young people in India. *International Journal of Epidemiology, 38,* 459–469. doi:10.1093/ije/dyn166

Pillay, A., & Wassenaar, D. R. (1997). Recent stressors and family satisfaction in suicidal adolescents in South Africa. *Journal of Adolescencs, 20*(2), 155-162.

Ponizovsky, A. M., Ritsner, M. S., & Modai, I. (1999). Suicidal ideation and suicide attempts among immigrant adolescents from the former Soviet Union to Israel. *Journal of the American Academy of Child and Adolescent Psychiatry, 38*(11), 1433-1441.

Portzky, G., De Wilde, E. -J., & Van Heeringen, K. (2008). Deliberate self-harm in young people: differences in prevalence and risk factors between the Netherlands and Belgium. *European Child & Adolescent Psychiatry, 17,* 179–186. doi:10.1007/s00787-007-0652-x

Pranjic´, N., & Bajraktarevic, A. (2010). Depression and suicide ideation among secondary school adolescents involved in school bullying. *Primary Health Care Research & Development, 11,* 349–362. doi:10.1017/S1463423610000307

Preuss, U. W., Schuckit, M. A., Smith, T. L., Danko, G. P., & Buckman, K. (2002). Comparison of 3190 alcohol-dependent individuals with and without suicide attempts. *Alcoholism: Clinical and Experimental Research, 26,* 471-477.

Priester, M. J., & Clum, G. A. (1992). Attributional style as a diathesis in predicting depression, hopelessness, and suicide ideation in college students. *Journal of Psychopathology and Behavioral Assessment, 14,* 111-122.

Priester, M. J., & Clum, G. A. (1993). Perceived problem-solving ability as a predictor of depression, hopelessness, and suicide ideation in a college population. *Journal of Counseling Psychology, 40,* 79-85.

Pringle, M. L. K., & Clifford, L. (1962). Conditions associated with emotional maladjustment among children in care. *Educational Review, 14,* 112-123.

Prinstein, M. J., Boergers, J., Spirito, A., Little, T. D., & Grapentine, W. L. (2000). Peer functioning, family dysfunction, and psychological symptoms in a risk factor model for adolescent inpatients' suicidal ideation severity. *Journal of Clinical Child Psychology, 29*(3), 392–405.

Pronovost, J., Côté, L., & Ross, C. (1990). Epidemiological study of suicidal behavior among secondary school students. *Canada's Mental Health, 38,* 9-14.

Puskar, K., Sereika, S., Lamb, J., Tusaie-Mumford, K., & McGuiness, T. (1999). Optimism and its relationship to depression, coping anger, and life events in rural adolescents. *Issues in Mental Health Nursing, 20,* 115-130.

Pynoos, S. (1987). Life threat and post-traumatic stress in children. *Archives of General Psychiatry, 44,* 1057-1068.

Rahman, M. H. (1988). *Socio-economic and Psychological Causes of Suicide in Jheneidah District.* New Delhi: Nothern Book Centre.

Randell, B. P., Wang, W. L., Herting, J. R., & Eggert, L. L. (2006). Family factors predicting categories of suicide risk. *Journal of Child and Family Studies, 15*(3), 255–270. doi:10.1007/s10826-006-9020-6

Range, L. M., & Penton, S. R. (1994). Hope, hopelessness, and suicidality in college students. *Psychological Reports, 75,* 456–458.

Ranieri, W. F., Steer, R.A., Lavrene, T. I., Rissmiller, D. J., Piper, G. E., & Beck, A. T. (1987). Relationship of depression, hopelessness, and dysfunctional attitudes to suicide ideation in psychiatric patients. *Psychological Reports. 61,* 967-975.

Rao, U., Weissman, M., Martin, J., & Hammond, R. (1993). Childhood depression and risk of suicide: A preliminary report of a longitudinal study. *Journal of the American Academy of Child and Adolescent Psychiatry, 32,* 21-27.

Rathunde, K. (2000). Family context and the development of undivided interest: A longitudinal study of family support and challenge and adolescents' quality of experience. *Applied Developmental Science, 5*(3), 158-171.

Reddy, R., Rhodes, J. E., & Mulhall, P. (2003). The influence of teacher support on student adjustment in the middle school years: a latent growth curve study. *Development and Psychopathology, 15,* 119-138.

Reifman, A., & Windle, M. (1995). Adolescent suicidal behaviors as a function of depression, hopelessness, alcohol use, and social support: A longitudinal investigation. *American Journal of Community Psychology, 23*(3), 329-354.

Resnick, M. D., Bearman, P. S., Blum, R. W., Bauman, K. E., Harris, K. M., Jones, J., ...Udry, J. R. (1997). Protecting adolescent from harm: findings from the National Longitudinal Study of Adolescent Health. *Journal of the American Medical Association, 278*(10), 823-832.

Reynolds, W. M. (1988). *Suicidal Ideation Questionnaire: Professional manual.* Odessa, FL: Psychological Assessment Resources.

Rhodes, J. E. (2004). Family, friends, and community: the role of social support in promoting health. In P. Camic & S. Knight (Eds.), *Clinical handbook of health psychology* (pp. 289-296). New York: Hogrefe and Huber.

Rice, K. G., Herman, M. A., & Petersen, A. C. (1993). Coping with challenge in adolescence: a conceptual model and psycho-educational intervention. *Journal of Adolescence, 16,* 235-251.

Rich, A. R., & Bonner, R. L. (1987). Concurrent validity of a stress-vulnerability model of suicidal ideation and behavior: A follow-up study. *Suicide and Life-Threatening Behavior, 17,* 265-270.

Rich, A. R., Kirkpatrick-Smith, J., Bonner, R. L., & Jans, F. (1992). Gender differences in the psychosocial correlates of suicidal ideation among adolescents. *Suicide and Life-Threatening Behavior, 22*(3), 364-373.

Richardson, A. S., Bergen, H. A., Martin, G., Roeger, L., & Allison, S. (2005). Perceived academic performance as an indicator of risk of attempted suicide in young adolescents. *Archives of Suicide Research, 9,* 163–176. doi:10.1080/13811110590904016

Richman, J. (1999). Similarities and differences between younger and older suicidal people. *Journal of Clinical Geropsychology, 5*(1), 1-17.

Rifai, A. H., George, C. J., Stack, J. A., Mann, J. J., & Reynolds, C. F. (1994). Hopelessness in suicide attempters after acute treatment of major depression in late life. *American Journal of Psychiatry, 151*(11), 1687-1690.

Rigby, K., & Slee, P. (1999). Suicidal ideation among adolescent school children, involvement in bully-victim problems, and perceived social support. *Suicide and Life-Threatening Behavior, 29*(2), 119-130.

Rigby, K., Slee, P. T., & Martin, G. (2007). Implications of inadequate parental bonding and peer victimization for adolescent mental health. *Journal of Adolescence, 30,* 801–812. doi:10.1016/j.adolescence.2006.09.008

Roberts, R. E., & Chen, Y. W. (1995). Depressive symptoms and suicidal ideation among Mexican-origin and Anglo adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry, 34,* 81–90.

Roberts, R. E., Roberts, C. R., & Chen, Y. R. (1998). Suicidal thinking among adolescents with a history of attempted suicide. *Journal of the American Academy of Child and Adolescent Psychiatry, 37,* 1294-1300.

Robins, A., & Fiske, A. (2009). Explaining the relation between religiousness and reduced suicidal behavior: Social support rather than specific beliefs. *Suicide and Life-Threatening Behavior, 39*(4), 386-395.

Rosenthal, M. J. (1981). Sexual differences in suicidal behavior of young children. *Adolescent Psychiatry, 9,* 422-442.

Roy, A., Nielsen, D., Rylander, G., & Sarchiapone, M. (2000). The genetics of suicidal behaviour. In K. Hawton & K. van Heeringen (Eds.), *The international handbook of suicide and attempted suicide* (pp. 209-222). Chichester: Wiley.

Ruangkanchanaseir, S., Plitponkarnpim, A., Hetrakul, P., & Kongsakon, R. (2005). Youth risk behaviour survey: Bangkok, Thailand. *Journal of Adolescent Health, 36,* 227-235.

Rubenstein, J. L., Heeren, T., Housman, D., Rubin, C., & Stechler, G. (1989). Suicidal behavior in "normal" adolescents: risk and protective factors. *American Journal of Orthopsychiatry, 59*(1), 59-71.

Rudatsikira, E., Muula, A. S., & Siziya, S. (2007). Prevalence and associated factors of suicidal ideation among school-going adolescents in Guyana: results from a cross sectional study. *Clinical Practice and Epidemiology in Mental Health, 3,* 13. doi:10.1186/1745-0179-3-13

Rudd, M. D. (1989). The prevalence of suicidal ideation among college students. *Suicide and Life-Threatening Behavior, 19*(2), 173-183.

Rudd, M. D. (1990). An integrative model of suicidal ideation. *Suicide and Life-Threatening Behavior, 20*(1), 16-30.

Rueter, M. A., & Kwon, H. K. (2005). Developmental trends in adolescent suicidal ideation. *Journal of Research on Adolescence, 15*(2), 205-222.

Runtz, M., & Schallow, J. (1997). Social support and coping strategies as mediators of adult adjustment following childhood maltreatment. *Child Abuse and Neglect, 21,* 211-226.

Rutter, P. A., & Soucar, E. (2002). Youth suicide risk and sexual orientation. *Adolescence, 37*(146), 289-299.

Şahin, N. H., Batigün, A., & Şahin, N. (1998). Reasons for living and their protective value: A Turkish sample. *Archives of Suicide Research, 4,* 157-168. doi:10.1080/13811119808260445

Sandin, B., Chorot, P., Santed, M. A., Valiente, R. M., & Joiner, T. E. (1998). Negative life events and adolescent suicidal behavior: A critical analysis from the stress process perspective. *Journal of Adolescence, 21,* 415-426.

Sandler, I. N., & Barrera, M. (1984). Toward a multimethod approach to assessing the effects of social support. *American Journal of Community Psychology, 12,* 37-52.

Sarafino, E. P. (1994). *Health Psychology-Biopsycho-social Interactions.* New York: John Wiley & Sons, Inc.

Sarason, B. R., Shearin, E. N., Pierce, G. R., & Sarason, I. G. (1987). Interrelations of social support measures: Theoretical and practical implications. *Journal of Personality and Social Psychology, 52,* 813-832.

Sarason, I. G., Levine, H. M., Basham, R. B., & Sarason, B. R. (1983). Assessing social support: The social support questionnaire. *Journal of Personality and Social Psychology, 44,* 127-139.

Sarason, I. G., Sarason, B. R., Potter, E. H., & Antoni, M. H. (1985). Life events, social support, and illness. *Psychosomatic Medicine, 47,* 156-163.

Saxena, S., & Mohan, D. (1982). Life event research: A review of methodology (with special reference to India); *Indian Journal of Psychiatry, 24*(4). 322-328.

Sayal, K., Checkley, S., Rees, M., Jacobs, C., Harris, T., Papadopoulos, A., & Poon, L. (2002). Effects of social support during weekend leave on cortisol and depression ratings: A pilot study. *Journal of Affective Disorders, 71,* 153-157.

Schaefer, C., Coyne, J. C., & Lazarus, R. S. (1981). The health-related functions of social support. *Journal of Behavioral Medicine, 4,* 381-406.

Scheier, M. F., & Carver, C. S. (1985). Optimism, coping, and health: Assessment and implications of generalized outcome expectancies. *Health Psychology, 4,* 219-247.

Scheier, M. F., & Carver, C. S. (1987). Dispositional optimism and physical well-being: The influence of generalized outcome expectancies on health. *Journal of Personality, 55,* 169–210.

Scheier, M. F., & Carver, C. S. (1992). Effects of optimism on psychological and physical well-being: Theoretical overview and empirical update. *Cognitive Therapy and Research, 16,* 201–228.

Scheier, M. F., & Carver, C. S. (1993). On the power of positive thinking: The benefits of being optimistic. *Current Directions in Psychological Science, 2,* 26-30.

Scheier, M. F., & Carver, C. S. (2001). Adapting to cancer: the importance of hope and purpose. In A. Baum & B. L. Anderson (Eds.), *Psychosocial interventions for cancer* (pp. 15-36). Washington, DC: American Psychological Association.

Scheier, M. F., Carver, C. S., & Bridges, M. W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): A reevaluation of the Life Orientation Test. *Journal of Personality and Social Psychology, 67,* 1063–1078.

Scheier, M. F., Carver, C. S., & Bridges, M. W. (2001). Optimism, pessimism, and psychological well-being. In E. C. Chang (Ed.), *Optimism and pessimism: Implications for theory, research, and practice* (pp. 189-216). Washington, DC: American Psychological Association.

Scheier, M. F., Mathews, K. A., Owens, J. F., Magovern, G. J., Sr., Lefebvre, R. C., Abbott, R. A., & Carver, C. S. (1989). Dispositional optimism and recovery from coronary artery bypass surgery: The beneficial effects on physical and psychological well-being. *Journal of Personality and Social Psychology, 57,* 1024-1040.

Scheier, M. F., Weintraub, J. K., & Carver, C. S. (1986). Coping with stress: Divergent strategies of optimists and pessimists. *Journal of Personality and Social Psychology, 51,* 1257-1264.

Schotte, D. E., & Clum, G. (1982). Suicide ideation in a college population: A test of a model. *Journal of Consulting and Clinical Psychology, 50,* 690-696.

Schotte, D. E., & Clum, G. A. (1987). Problem-solving skills in suicidal psychiatric patients. *Journal of Consulting and Clinical Psychology, 55,* 49-54.

Schwarzer, R. (1999). Self-regulatory processes in the adoption and maintenance of health behaviors: The role of optimism, goals, and ghreats. *Journal of Health Psychology, 4,* 115–127.

Schwarzer, R., & Leppin, A. (1991). Social support and heath: A theoretical and empirical overview. *Journal of Social and Personal Relationships, 8,* 99-127.

Schweitzer, R., Klayich, M., & McLean, J. (1995). Suicidal ideation and behaviours among university students in Australia. *Australian and New Zealand Journal of Psychiatry, 29,* 473-479. doi:10.3109/00048679509064956

Segerstorm, S. C. (2000). Personality and the immune system: Models, methods, and mechanism. *Annals of Behavioral Medicine, 22,* 180-190.

Seidman, E., Allen, L., Aber, J. L., Mitchell, C., & Feinman, J. (1994). The impact of school transitions in early adolescence on the self-system and perceived social context of poor urban youth. *Child Development, 65,* 507-522.

Seligman, M. E. P. (1991). *Learned optimism.* New York, NY: Knopf.

Seligman, M. E. P. (1998). *Learned optimism: How to change your mind and your life* (2nd edition). New York: Pocket Books.

Seligman, M. E. P., & Schulman, P. (1986). Explanatory style as a predictor of performance as a life insurance agent. *Journal of Personality and Social Psychology, 50,* 832-838.

Seligman, M. E. P., Nolen-Hoeksema, S., Thornton, N., & Thornton, K. M. (1990). Explanatory style as a mechanism of disappointing athletic performance. *Psychological Science, 1,* 143-146.

Seligman, M. E. P., Schulman, P., DeRubeis, R. J., & Hollon, S. D. (1999). The prevention of depression and anxiety. *Prevention and Treatment, 2.* Retrieved from http://journals.apa.org/prevention/volume2/pre0020008a.html

Selye, H. (1956). *The stress of life.* New York: McGraw-Hill.

Shaffer, D., Gould, M. S., Fisher, P., Trautman, P., Moreau, D., Kleinman, M., & Flory M. (1996). Psychiatric diagnosis in child and adolescent suicide. *Archives of General Psychiatry, 53,* 339-348.

Shagle, S. C., & Barber, B. K. (1995). A social-ecological analysis of adolescent suicidal ideation. *American Journal of Orthopsychiatry, 65*(1), 114-124.

Shaheen, F. (2009). *A study of parental expectations, attributional styles and coping strategies of students experiencing psychological distress.* (Unpublished doctoral dissertation). Aligarh Muslim University, India.

Sharaf, A. Y., Thompson, E. A., & Walsh, E. (2009). Protective effects of self-esteem and family support on suicide risk behaviors among at-risk adolescents. *Journal of Child and Adolescent Psychiatric Nursing, 22*(3), 160–168. doi:10.1111/j.1744-6171.2009.00194.x

Sharma, R., Grover, V. L., & Chaturvedi, S. (2008). Suicidal behavior amongst adolescent students in south Delhi. *Indian Journal of Psychiatry, 50*(1), 30-33.

Sharma, S. (1988). Stress and Anxiety, In J. Pandey (Ed.), *Psychology of India: The State-of-Art* (Vol.1, 191-248). New Delhi: Sage Publications.

Shatte, A., Gillham, J., & Reivich, K. (2000). Promoting hope in children and adolescents. In J. Gillham (Ed.), *The science of optimism and hope: Research essays in honor of Martin E. P. Seligman* (pp. 215-234). Radnor, PA: Templeton Foundation Press.

Shejwal, B. R., & Ram, U. (1983). *Sex differences in perception of stressful life events and threatening personal attachment.* Paper Presented at the Seminar on Stress. University of Poona, Pune, India.

Sherer, M. (1985). Depression and suicidal ideation in college students. *Psychological Reports,* 57. 1061-1062.

Shneidman, E. S. (1989). Overview: A multidimensional approach to suicide. In D. Jacobs & H. N. Brown (Eds.), *Suicide: Understanding and responding.* U.S.A.: International Universities Press.

Shneidman, E. S. (1996), *The suicidal mind.* New York: Oxford University Press.

Shumaker, S. A., & Brownell, A. (1984). Toward a theory of social support: Closing conceptual gaps. *Journal of Social Issues. 40,* 11-36.

Sidhartha, T., & Jena, S. (2006). Suicidal behaviors in adolescents. *Indian Journal of Paediatrics, 73*(9), 783-788.

Simons, R. L., & Murphy, P. I. (1985). Sex differences in the causes of adolescent suicidal ideation. *Journal of Youth and Adolescence, 14*(5), 423-434.

Singer, J. E., & Davidson, L. M. (1986). Specificity and stress research. In M. H. Appley & R. Trumball (Eds.), *Dynamics of stress: physiological, psychological, and social perspectives* (pp. 47-62). New York: Plenum.

Singh, R., & Joshi, H. L. (2008). Suicidal ideation in relation to depression, life stress and personality among college students. *Journal of the Indian Academy of Applied Psychology, 34*(2), 259-265.

Skapinakis, P., Bellos, S., Gkatsa, T., Magklara, K., Lewis, G., Araya, R., ...Mavreas, V. (2011). The association between bullying and early stages of suicidal ideation in late adolescents in Greece. *BMC Psychiatry, 11, 22.* doi:10.1186/1471-244X-11-22

Slater, J., & Depue, R. A. (1981). The contribution of environmental events and social support to serious suicide attempts in primary depressive disorder. *Journal of Abnormal Psychology, 90,* 275-285.

Slavin, L. A., & Rainer, K. L. (1990). Gender differences in emotional support and depressive symptoms among adolescents: A prospective analysis. *American Journal of Community Psychology, 18,* 407–421.

Smith, C. A., & Lazarus, R. S. (1993). Appraisal components, core relational themes, and the emotions. *Cognition and Emotion, 7,* 233-269.

Smith, S. M., Goodman, R., Thacker, S., Burton, A., Parsons, J., & Hudson, P. (1989). Alcohol and fatal injuries. *American Journal of Preventive Medicine, 5,* 296-304.

Snyder, C. R. (1994). *The psychology of hope: You can get there from here.* New York, NY, US: The Free Press.

Snyder, C. R., Harris, C., Anderson, J. R., Holleran, S. A., Irving, L. M., Sigmon, S. T., ... Harney, P. (1991). The will and the ways: Development and validation of an individual-differences measure of hope. *Journal of Personality and Social Psychology, 60,* 570–585.

Solomon, D., Battistich, V., Watson, M., Schaps, E., & Lewis, C. (2000). A six-district study of educational change: direct and mediated effects of child development project. *School Psychology of Education, 4,* 3-51.

Sommer, B. (1984). The troubled teen: Suicide, drug use, and running away. *Women and Health, 9,* 117-141.

Sosin, D. M., Koepsell, T. D., Rivara, F. P., & Mercy, J. A. (1994). Fighting as a marker for multiple problem behaviours in adolescents. *Journal of Adolescent Health, 15,* 186-191.

Spann, M. N. (2006). External locus of control as a predictor for suicide risk in African American teenagers. *Dissertation Abstract International- Section B: The Sciences and Engineering, 66*(7-B), 3959.

Spirito, A., Brown, L., Overholser, J., & Fritz, G. (1989). Attempted suicide in adolescence: review and critique of the literature. *Clinical Psychology Review, 9,* 335-363.

Spirito, A., Sterling, C. M., Donaldson, D. L., & Arrigan, M. E. (1996). Factor analysis of the suicide intent scale with adolescent suicide attempters. *Journal of Personality Assessment, 67,* 90-101.

Springer, A., Parcel, G., Baumler, E., & Ross, M. (2006). Supportive social relationships and adolescent health risk behavior among secondary school students in El Salvador. *Social Science & Medicine, 62,* 1628–1640. doi:10.1016/j.socscimed.2005.08.018

Srinivas, P. B. (1999). *Academic stress, adjustment styles and academic success among the students.* Unpublished Masters thesis, Sri Venkateshwara University, Tirupati, Andhra Pradesh, India.

Staats, S. (1987). Hope: Expected positive affect in an adult sample. *Journal of Genetic Psychology, 148,* 357-364.

Stack, S. (2000). Sociological research into suicide. In D. Lester (Ed.), *Suicide prevention. Resources for the millennium* (pp. 17-29). Philadelphia, PA: Brunner Routledge.

Stanley, E. J., & Barter, J. T. (1970). Adolescent suicidal behaviour. *American Journal of Orthopsychiatry, 40,* 87-96.

Stark, K., & Boswell, J. (2000). Discussion of the Penn Optimism Program: Recognizing its strengths and considerations for enhancing the program. In J. Gillham (Ed), *The science of optimism and hope: Research essays in honor of Martin E. P. Seligman* (pp. 235- 256). Radnor, PA: Templeton Foundation Press.

Stephenson, H., Pena-Shaff, J., & Quirk, P. (2006). Predictors of college student suicidal ideation: Gender differences. *College Student Journal, 40*(1), 109-117.

Stewart, M. E., Donaghey, C., Deary, I. J., & Ebmeier, K. P. (2008). Suicidal thoughts in young people: Their frequency and relationships with personality factors. *Personality and Individual Differences, 44,* 809–820.

Stewart, S. M., Lam, T. H., Betson, C., & Chung, S. F. (1999). Suicide ideation and its relationship to depressed mood in a community sample of adolescents in Hong Kong. *Suicide and Life-Threatening Behavior, 29*(3), 227-240.

Sue, S., & Okazaki, S. (1990). Asian-American educational achievements: A phenomenon in search of an explanation. *American Psychologist, 45,* 913–920.

Sumer, M., Giannotta, F., Settanni, M., & Ciairano, S. (2009). Parental support as mediator between optimism and depression in early adolescents. *Journal of Psychology and Counseling, 1*(8), 139-146.

Sun, R. C. F., & Hui, E. K. P. (2007a). Building social support for adolescents with suicidal ideation: implications for school guidance and counselling. *British Journal of Guidance & Counselling, 35*(3), 299-316.

Sun, R. C. F., & Hui, E. K. P. (2007b). Psychosocial factors contributing to adolescent suicidal ideation. *Journal of Youth and Adolescence, 36,* 775–786. doi:10.1007/s10964-006-9139-1

Sun, R. C. F., Hui, E. K. P., & Watkins, D. (2006). Towards a model of suicidal ideation for Hong Kong Chinese adolescents. *Journal of Adolescence, 29*(2), 209-224.

Swanson, J. W., Linskey, A. O., Quintero-Salinas, R., Pumariega, A. J., & Holzer, C. E. (1992). A binational school survey of depressive symptoms, drug use, and suicidal ideation. *Journal of the American Academy of Child and Adolescent Psychiatry, 31,* 669-678.

Tang, T. C., Ko, C. H., Yen, J. Y., Lin, H. C., Liu, S. C., Huang, C. F., & Yen, C. F. (2009). Suicide and its association with individual, family, peer, and school factors in an adolescent population in Southern Taiwan. *Suicide and Life-Threatening Behavior, 39*(1), 91-102.

Tardy, C. H. (1985). Social support measurement. *American Journal of Community Psychology, 13,* 187-202.

Tatman, S., Greene, A., & Karr, L. (1993). Use of the Suicide Probability Scale with adolescents. *Suicide and Life-Threatening Behavior, 23,* 188-203.

Taylor, A., Grande, E. D., Gill, T., Fisher, L., & Goldney, R. (2007). Detecting determinants of suicidal ideation: South Australian surveillance system results. *International Journal of Public Health, 52,* 142–152. doi:10.1007/s00038-007-5064-7

Taylor, S. (1989). *Positive illusions: Creative self-deception and the healthy mind.* New York, NY: Basic Books.

Taylor, S., & Brown, J. (1988). Illusion and well-being: A social psychological perspective on mental health. *Psychological Bulletin, 103,* 193-210.

Terzi-Unsal, S., & Kapci, E. G. (2005). Risk factors for suicidal behavior: Psychosocial risk models with Turkish adolescents. *Social Behavior and Personality, 33*(6), 593-608.

Thoits, P. A. (1982). Conceptual, methodological, and theoretical problems in studying, social support as a buffer against life stress. *Journal of Health and Social Behaviour, 23,* 145-158.

Thoits, P. A. (1983). Multiple identities and psychological well-being. A reformulation and test of the social isolation hypothesis. *American Sociological Review, 48,* 174-187.

Thoits, P. A. (1986). Multiple identities: Examining gender and marital status differences in distress. *American Sociological Review, 51,* 259-272.

Thompson, E. A., Mazza, J. J., Herting, J. R., Randell, B. P., & Eggert, L. L. (2005). The mediating roles of anxiety, depression, and hopelessness on adolescent suicidal behaviors. *Suicide and Life-Threatening Behavior, 35*(1), 14-34.

Thompson, M. P., & Light, L. S. (2011). Examining gender differences in risk factors for suicide attempts made 1 and 7 years later in a nationally representative sample. *Journal of Adolescent Health, 48,* 391–397. doi:10.1016/j.jadohealth.2010.07.018

Tikkanen, V., Alaräisänen, A., Hakko, H., Räsänen, P. Riala, K., & the STUDY-70 workgroup (2009). Psychotic boys performing well in school are at increased risk of suicidal ideation. *Psychiatry and Clinical Neurosciences, 63,* 30–36. doi:10.1111/j.1440-1819.2008.01887.x

Töero, K., Nagy, A., Sawaguchi, T., Sawaguchi, A., & Sótonyi, P. (2001). Characteristics of suicide among children and adolescents in Budapest. *Pediatrics International, 43*(4), 368–371.

Tomori, M., Kienhorst, C. W. M., De Wilde, E. J., & van den Bout, J. (2001). Suicidal behaviour and family factors among Dutch and Slovenian high school students: a comparison. *Acta Psychiatrica Scandinavica, 104,* 198-203.

Tomori, M., Zalar, B., & Kores Plesnicar, B. (2000). Gender differences in psychological risk factors among Slovenian adolescents. *Adolescence, 35,* 431-443.

Topol, P., & Reznikoff, M. (1982). Perceived peer and family relationships, hopelessness and loss of control as factors in adolescent suicide attempts. *Suicide & Life-Threatening Behavior, 12,* 141-150.

Toprak, S., Cetin, I., Guven, T., Can, G., & Demircan, C. (2011). Self-harm, suicidal ideation and suicide attempts among college students. *Psychiatry Research, 187,* 140-144. doi:10.1016/j.psychres.2010.09.009

Torsheim, T., & Wold, B. (2001). School-related stress, school support, and somatic complaints: A General Population Study. *Journal of Adolescent Research, 16*(3), 293-303.

Traskman-Bendz, L., & Mann, J. (2000). Biological aspects of suicidal behavior. In K. Hawton & K. van Heeringen (Eds.), *The international handbook of suicide and attempted suicide* (pp. 65-78). Chichester: Wiley.

Trumbull, R., & Appley, M. H. (1986). A conceptual model for examination of stress dynamics. In M. H. Appley & R. Trumbull (Eds.), *Dynamics of stress: physiological, psychological, and social perspectives*. New York: Plenum.

Turner, R. M., Korslund, K. E., Barnett, B. E., & Josiassen, R. C. (1998). Assessment of suicide in schizophrenia. *Cognitive and Behavioral Practice, 5*, 139-169.

Uchino, B. N., Holt-Lunstad, J., Uno, D., Betancourt, R., & Garvey, T. S. (1999). Social support and age-related differences in cardiovascular function: An examination of potential mediators. *Annals of Behavioral Medicine, 21*, 135-142.

Ulusoy, M. D., & Demir, N. O. (2005). Suicidal ideation in Turkish adolescents. *Social Behavior and Personality, 33*(6), 541-552.

Umberson, D. (1987). Family status and health behaviors: Social control as a dimension of social integration. *Journal of Health and Social Behaviour, 28*, 306-319.

Underwood, P. W. (2000). Social support: The promise and the reality. In V. H. Rice (Ed.), *Handbook of stress, coping, and Health: Implications for nursing research, theory, and practice* (pp. 367-391). Thousand Oaks, CA: Sage.

Ung, E. K. (2003). Youth suicide and parasuicide in Singapore. *Annals Academy of Medicine Singapore, 32*, 1–7.

Vaillant, G. E. (2003). Mental health. *American Journal of Psychiatry, 160*, 1373–1384.

Valois, R. F., Zullig, K. J., Huebner, S., & Drane, J. W. (2004). Life satisfaction and suicide among high school adolescents. *Social Indicators Research, 66*. 81-105.

van Heeringen, C. (2001). Suicide in adolescents. *International Clinical Psychopharmacology, 16*, 1–6.

van Heeringen, K., Hawton, K., & Williams, J. M. G. (2000). Pathways to suicide: An integrative approach. In K. Hawton & K. van Heeringen (Eds.), *The international handbook of suicide and attempted suicide* (pp. 223-236). Chichester: Wiley.

Vaux, A. (1988). *Social Support: Theory, Research, and Interventions*. New York: Praeger Publishers.

Vaux, A., Phillips, J., Thomson, B., Holly, L., Williams, D., & Stewart, D. (1986). The social support appraisals (SSA) Scale: Studies of reliability and validity. *American Journal of Community Psychology, 14,* 195-220.

Veiel, H. O. F. (1993). Detrimental effects of kin support networks on the course of depression. *Journal of Abnormal Psychology, 102,* 419–429.

Veiel, H. O. F., Brill, G. Hafner, H., & Welz, R. (1988). The social supports of suicide attempters: The different role of family and friends. *American Journal of Community Psychology, 16*(6), 839-861.

Verkuyten, M., & Thijs, J. (2002). School satisfaction of elementary school children: the role of performance, peer relations, ethnicity and gender. *Social Indicators Research, 59,* 203-228.

Verma, O. P., & Upadhyay, S. N. (1981). Some psychological correlates of school achievement. *Indian Psychological Review, 20*(4), 22-29.

Wagner, B. M., Cohen, P., & Brook, J. (1996). Parent / adolescent relationships: Moderators of the effects of stressful life events. *Journal of Adolescent Research, 11,* 347-374.

Waldrop, A. E., Hanson, R. F., Resnick, H. S., Kilpatrick, D. G., Naugle, A. E., & Saunders, B. E. (2007). Risk factors for suicidal behavior among a national sample of adolescents: Implications for prevention. *Journal of Traumatic Stress, 20*(5), 869–879.

Wallston, B. S., Alagana, S. W., De Vellis, B. M., & De Vellis, R. F. (1983). Social support and physical illness. *Health Psychology, 2,* 367-391.

Walsh, E., & Eggert, L. L. (2007). Suicide risk and protective factors among youth experiencing school difficulties. *International Journal of Mental Health Nursing, 16,* 349–359. doi:10.1111/j.1447-0349.2007.00483.x

Wan, G. W. Y., & Leung, P. W. L. (2010). Factors accounting for youth suicide attempt in Hong Kong: A model building. *Journal of Adolescence, 33,* 575–582. doi:10.1016/j.adolescence.2009.12.007

Wang, J., Deng, X.-J., Wang, J.-J., Wanga, X.-W., & Xu, L. (2009). Substance use, sexual behaviours, and suicidal ideation and attempts among adolescents: findings from the 2004 Guangzhou Youth Risk Behaviour Survey. *Public Health, 123,* 116–121. doi:10.1016/j.puhe.2008.10.013

Waring, J. C. (1995). *Problem solving appraisal, hopelessness and coping resources: A test of a suicide ideation model.* (Master's thesis). University of Newcastle. Retrieved from http://hdl.handle.net/1959.13/24933

Weishaar, M. E. (2000). Cognitive risk factors in suicide. In R. W. Maris, S. S. Canetto, J. L. McIntosh, & M. M. Silverman (Eds.), *Review of suicidology, 2000* (pp. 112-139). New York: Guilford.

Weiss, R. (1974). The provisions of social relationships. In Z. Rubin (Ed.), *Doing unto others* (pp. 17-26). Englewood Cliffs, NJ: Prentice Hall.

Weissman, M. M., Bland, R. C., Canino, G. J., Greenwald, S., Hwu, H. G., Joyce, P. R., ...Yeh, E. K. (1999). Prevalence of suicide ideation and suicide attempts in nine countries. *Psychological Medicine, 29*(1), 9-17.

Wellman, M. M., & Wellman, R. J. (1986). Sex differences in peer responsiveness to suicide ideation. *Suicide and Life-Threatening Behavior, 16*, 360-378.

Wellman, R. J., & Wellman, M. M. (1988). Correlates of suicide ideation in a college population. *Social Psychiatry and Psychiatric Epidemiology, 23*, 90-95.

Whatley, S. L., & Clopton, J. R. (1992). Social support and suicidal ideation in college students. *Psychological Reports, 71*, 1123-1128.

Wilburn, V. R., & Smith, D. E. (2005). Stress, self-esteem, and suicidal ideation in late adolescents. *Adolescence, 40*(157), 33-45.

Williams, J., & Pollock, L. (2000). The psychology of suicidal behavior. In K. Howton & K. van Heeringen (Eds.), *The international handbook of suicide and attempted suicide* (pp. 79-94). Chichester: Wiley.

Wills, T. A. (1984). Supportive functions of interpersonal relationships. In S. Cohen & S. L. Syme (Eds.), *Social support and health* (pp. 61-82). Orlando: Academic Press.

Wills, T. A., & Cleary, S. D. (1996). How are social support effects mediated? A test with parental support and adolescent substance use. *Journal of Personality and Social Psychology, 71*, 937-952.

Wills, T. A., & Fegan, M. F. (2001). Social networks and social support. In A. Baum, T. A. Revenson, & J. E. Singer (Eds.), *Handbook of health psychology* (pp. 209-234). Mahwah, NJ: Erlbaum.

Winterrowd, E., Canetto, S. S., & Chavez, E. L. (2010). Friendships and suicidality among Mexican American adolescent girls and boys. *Death Studies, 34*, 641-660. doi:10.1080/07481181003765527

Winterrowd, E., Canetto, S. S., & Chavez, E. L. (2011). Friendship factors and suicidality: Common and unique patterns in Mexican American and European American youth. *Suicide and Life-Threatening Behavior, 41*(1), 50-65.

Withers, L. E., & Kaplan, D. W. (1987). Adolescents who attempt suicide: A retrospective clinical chart review of hospitalized patients. *Professional Psychology: Research and Practice, 18,* 391-393.

Wolkind, S. N. (1974). Sex differences in the aetiology of antisocial disorders in children in long-term residential care. *British Journal of Psychiatry, 125,* 125-130.

Wong, I. N., de Man, A. F., & Leung, P. W. L. (2002). Perceived parental child rearing and suicidal ideation in Chinese adolescents. *Social Behavior and Personality, 30*(1), 19-24.

Wong, J. P. S., Stewart, S. M., Ho, S. Y., Rao, U., & Lam, T. H. (2005). Exposure to suicide and suicidal behaviors among Hong Kong adolescents. *Social Science & Medicine,* 61, 591-599. doi:10.1016/j.socscimed.2004.12.012

Wong, S. S., Ang, R. P., & Huan, V. S. (2007). Externalizing problems, internalizing problems, and suicidal ideation in Singaporean adolescents: Sex differences. *Current Psychology: Developmental, Learning, Personality, Social, 25*(4), 231-244.

Woolfolk, R. L., Lehrer, P. M., & Allen, L. A. (2007). Conceptual issues underlying stress management. In P. M. Lehrer, R. L. Woolfolk, & W. E. Sime (Eds.), *Principles and practice of stress management* (pp. 3-15). New York, NY: The Guilford Press.

Wortman, C. B., & Dunkel-Schetter, C. (1987). Conceptual and methodological issues in the study of social support. In A. Baum & J. E. Singer (Eds.), *Handbook of Psychology and Health* (Vol. 5, pp. 63-108). Hillsdale, NJ: Erlbaum.

Wright, R. J., Rodriquez, M., & Cohen, S. (1998). Review of psychosocial stress and asthma: An integrated biopsychosocial approach. *Thorax, 53*(12), 1066-1074.

Wrosch, C., Scheier, M. F., Miller, G. E., Schulz, R., & Carver, C. S. (2003). Adaptive self-regulation of unattainable goals: Goal disengagement, goal reengagement, and subjective well-being. *Personality and Social Psychology Bulletin, 29,* 1494-1508.

Wu, T., & Serper, M. R. (1999). Social support and psychopathology in homeless patients presenting for emergency psychiatric treatment. *Journal of Clinical Psychology, 55,* 1127-1133.

Yang, B., & Clum, G. A. (1996). Effects of early negative life experiences on cognitive functioning and risk for suicide: A review. *Clinical Psychology Review, 16,* 177-95.

Yang, B., & Clum, G. A. (2000). Childhood stress leads to later suicidality via its effect on cognitive functioning. *Suicide and Life-Threatening Behavior, 30*(3), 183-198.

Yeh, C. J., & Huang, K. (1996). The collectivistic nature of ethnic identity development among Asian-American college students. *Adolescence, 31,* 645-662.

Yen, S., Shea, M. T., Pagno, M., Sanislow, C. A., & Grilo, C. M. (2003). Axis I and axis II disorders as predictors of prospective suicide attempts: findings from the collaborative longitudinal personality disorders study. *Journal of Abnormal Psychology, 112,* 375-381.

Yip, P. S. F., Liu, K. Y., Lam, T. H., Stewart, S. M., Chen, E., & Fan, S. (2004). Suicidality among high school students in Hong Kong, SAR. *Suicide and Life-Threatening Behavior, 34*(3), 284-297.

Yoder, K. A., Whitbeck, L. B., Hoyt, D. R., & LaFromboise, T. (2006). Suicidal ideation among American Indian youths. *Archives of Suicide Research, 10,* 177-190. doi:10.1080/13811110600558240

Zayas, L., Gulbas, L. E., Fedoravicius, N., & Cabassa, L. J. (2010). Patterns of distress, precipitating events, and reflections on suicide attempts by young Latinas. *Social Science & Medicine, 70,* 1773-1779. doi:10.1016/j.socscimed.2010.02.013

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The Multidimensional Scale of Perceived Social Support. *Journal of Personality Assessment, 52*(1), 30-41.

Zimet, G. D., Powell, S. S., Farley, G. K., Werkman, S., & Berkoff, K. A. (1990). Psychometric characteristics of the Multidimensional Scale of Perceived Social Support. *Journal of Personality Assessment, 55,* 610-617.

Zweig, J. M., Phillips, S. D., & Lindberg, L. D. (2002). Predicting adolescent profiles of risk: looking beyond demographics. *Journal of Adolescent Health, 31,* 343-353.

Appendices

Appendix-A

Personal Data Sheet

Dear students,

It is a test to measure some aspects of your personality. There is no right or wrong answer to any of these statements. You have to select the response which best describes you.

I request you to give free and frank responses as (1) your information will be kept confidential (2) your frank responses will help us in reaching some important conclusion in our research. I will be grateful for your cooperation.

Thanking you.

Name:
(If you do not want to reveal your identity, do not write your name)

Age: Gender: Male/Female.

Class / Grade:

Faculty (Science/Arts/Commerce/…):

Percentage in previous class:

Family: Joint/ Nuclear. Family background: Rural/Urban.

Father's occupation & education:

Mother's occupation & education:

Parents monthly income:

Appendix-B

LOT-R

Instructions: Please read each items carefully and indicate the degree to which each of the items represents your feelings according to the following code.

- **0=strongly disagree**
- **1=disagree**
- **2=neutral/neither agree nor disagree**
- **3=agree**
- **4=strongly agree**

1. In uncertain times, I usually expect the best.
   Strongly disagree 0 1 2 3 4 strongly agree

2. It's easy for me to relax.
   Strongly disagree 0 1 2 3 4 strongly agree

3. If something can go wrong for me, it will.
   Strongly disagree 0 1 2 3 4 strongly agree

4. I'm always optimistic about my future.
   Strongly disagree 0 1 2 3 4 strongly agree

5. I enjoy my friends a lot.
   Strongly disagree 0 1 2 3 4 strongly agree

6. It's important for me to keep busy.
   Strongly disagree 0 1 2 3 4 strongly agree

7. I hardly ever expect things to go my way.
   Strongly disagree 0 1 2 3 4 strongly agree

8. I don't get upset too easily.
   Strongly disagree 0 1 2 3 4 strongly agree

9. I rarely count on good things happening to me.
   Strongly disagree 0 1 2 3 4 strongly agree

10. Overall, I expect more good things to happen to me than bad
    Strongly disagree 0 1 2 3 4 strongly agree

Appendix-C

MSPSS

Instruction: We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

Circle the "1" if you **Very Strongly Disagree**
Circle the "2" if you **Strongly Disagree**
Circle the "3" if you **Mildly Disagree**
Circle the "4" if you are **Neutral**
Circle the "5" if you **Mildly Agree**
Circle the "6" if you **Strongly Agree**
Circle the "7" if you **Very Strongly Agree**

1. There is a special person who is around when I am in need. 1 2 3 4 5 6 7

2. There is a special person with whom I can share my joys and sorrows. 1 2 3 4 5 6 7

3. My family really tries to help me. 1 2 3 4 5 6 7

4. I get the emotional help and support I need from my family. 1 2 3 4 5 6 7

5. I have a special person who is a real source of comfort to me. 1 2 3 4 5 6 7

6. My friends really try to help me. 1 2 3 4 5 6 7

7. I can count on my friends when things go wrong. 1 2 3 4 5 6 7

8. I can talk about my problems with my family. 1 2 3 4 5 6 7

9. I have friends with whom I can share my joys and sorrows. 1 2 3 4 5 6 7

10. There is a special person in my life who cares about my feelings. 1 2 3 4 5 6 7

11. My family is willing to help me make decisions. 1 2 3 4 5 6 7

12. I can talk about my problems with my friends. 1 2 3 4 5 6 7

Appendix-D

Student Stress Scale

Instructions: Please indicate the extent to which the following items are a source of stress to you. Indicate your responses by putting tick mark (√) against any one of the categories given against each item.

1. No stress at all. 2. Slight stress. 3. A lot of stress. 4. Extreme stress.

1. Indiscipline in the classroom.	**1 2 3 4**
2. Uncertainty after leaving university/college.	**1 2 3 4**
3. Poor facilities in the faculty/college (books, material, equipment, drinking water, lavatory)	**1 2 3 4**
4. Too much demands by parents after university/ college hours which disturb studies.	**1 2 3 4**
5. Difficulty in understanding classroom lectures.	**1 2 3 4**
6. Examination pressures.	**1 2 3 4**
7. Petty university/college regulations.	**1 2 3 4**
8. Lack of concentration at home/hostel when studying.	**1 2 3 4**
9. Course syllabi are not job oriented in some subjects.	**1 2 3 4**
10. Difficulties in keeping up with home work /working notes.	**1 2 3 4**
11. Adjustment problems with roommates/friends.	**1 2 3 4**
12. Worry about the future career (e.g. employment).	**1 2 3 4**
13. Parent's anxiety about studies.	**1 2 3 4**
14. Lack of concentration in the classroom.	**1 2 3 4**
15. Effects of watching too much of T.V. on studies.	**1 2 3 4**
16. Difficulties in maintaining relationship with opposite-sex.	**1 2 3 4**

17. Continuous periods of optional/Compulsory subjects in daily time table.	1 2 3 4
18. Lack of understanding by parents about study commitments.	1 2 3 4
19. Lack of sufficient career guidance.	1 2 3 4
20. Monotony in daily routine.	1 2 3 4
21. Difficulty in comprehending examination question papers.	1 2 3 4
22. Difficulty in preparing notes from books.	1 2 3 4
23. Fear of letting down parents.	1 2 3 4
24. Too much homework to do each evening /night.	1 2 3 4
25. Conflicting attitudes toward life.	1 2 3 4
26. Teachers make too many extra demands from students.	1 2 3 4
27. Relevance of subjects being studied.	1 2 3 4
28. Lawlessness in the university/college campus.	1 2 3 4
29. Delay in academic session.	1 2 3 4
30. Worry about getting admission in higher class.	1 2 3 4
31. Poor facilities in the university's/colleges Halls of residence (Food, Accommodation, Library, Toilet, Sports, Entertainment).	1 2 3 4
32. Lack of academic atmosphere in the University/college.	1 2 3 4
33. Overindulgence by the student's leaders.	1 2 3 4
34. Poor guidance and coaching facilities in the university/college for studies.	1 2 3 4
35. Disharmonious relationship between students and teachers/ university administration.	1 2 3 4
36. Worry about standard of living of roommate.	1 2 3 4
37. Delay in declaration of examination results.	1 2 3 4

38. Dissatisfaction with the award of marks by some teachers.	1	2	3	4
39. Syllabi of subjects are not at par with the competitive examinations.	1	2	3	4
40. Too much demands from the family members.	1	2	3	4
41. Concern over physical appearance.	1	2	3	4
42. Quality of food, at the hostels / canteens.	1	2	3	4
43. Health worries.	1	2	3	4
44. Financial constraints.	1	2	3	4
45. Limited scope for recreational/ entertainment facilities.	1	2	3	4
46. Poor medical facilities at the University Health Service.	1	2	3	4
47. Worry over transport charges (i.e. Rickshaw).	1	2	3	4
48. Concern over rental charges in case accommodation is not provided by the university.	1	2	3	4
49. General environmental cleanliness.	1	2	3	4
50. Tension in driving a vehicle or walking on the busy streets / bad roads.	1	2	3	4
51. Fear of failure in competitive examinations.	1	2	3	4
52. Adjustment with foreign students or students from other states.	1	2	3	4
53. Standards of living of other students.	1	2	3	4
54. Parental rejection/ restrictiveness.	1	2	3	4
55. Norm/Value erosion among students.	1	2	3	4
56. Teacher's absenteeism.	1	2	3	4
57. Lack of cooperation from teachers.	1	2	3	4

Appendix-E

Scale for Suicidal Ideation

Instructions: Please read each statement and put a tick mark on any one alternative which best describes you.

1. My wish to live is
0. Moderate to strong
1. Weak
2. None

2. My wish to die is
0. None
1. Weak
2. Moderate to strong

3. Reasons for living/dying
0. For living outweigh reasons for dying
1. Are about equal
2. For dying outweigh reasons for living

4. My desire to make an active suicide attempt
0. None
1. Weak
2. Moderate to strong

5. Passive Suicidal desire
0. I would take precautions to save my life
1. I would leave life/death to chance
2. I would avoid steps necessary to save or maintain my life

6. Time dimension: Duration of suicide ideation/wish
0. Brief, fleeting periods
1. Longer periods
2. Continuous (chronic) or almost continuous

7. Time dimension: Frequency of suicide
0. Rare, occasional
1. Intermittent
2. Persistent or continuous

8. Attitude toward ideation/wish
0. Rejecting
1. Ambivalent; indifferent
2. Accepting

9. **Control over suicidal action/acting-out wish**
0. I have a sense of control over my wish
1. I am unsure of my control over my wish
2. I have no sense of control over my wish

10. **Deterrents to active attempt (e.g. family, religion, irreversibility)**
0. I would not attempt suicide because of a deterrent
1. I have some concern about deterrents
2. I have minimal or no concern about deterrents

11. **Reason for contemplated attempt**
0. To manipulate the environment; get attention, revenge
1. Combination of 0 and 2.
2. To escape, surcease (stop existing), solve problems

12. **Method: Specificity/planning of contemplated attempt**
0. Not considered
1. Considered, but details not worked out
2. Details worked out/ well formulated

13. **Method: Availability/opportunity for contemplated attempt**
0. Method not available; no opportunity
1. Method would take time/ effort; opportunity not readily available
2a. Method and opportunity available
2b. Future opportunity or availability of method anticipated

14. **Sense of "capability" to carry out attempt**
0. No courage, too weak, afraid, incompetent
1. Unsure of courage, competence
2. Sure of competence, courage

15. **Expectancy/anticipation of actual attempt**
0. No
1. Uncertain, not sure
2. Yes

16. **Actual preparation for contemplated attempt**
0. None
1. Partial preparation (e.g., started to collect pills)
2. Complete preparation (e.g., have pills, have loaded gun)

17. **Suicide note**
0. None
1. Started but did not completed it; only thought about a note
2. Have completed a suicide note

18. Final acts in anticipation of death (e.g., insurance, will)

0. None
1. Thought about or have made some arrangements
2. Have made definite plans or completed arrangements

19. Deception/concealment of contemplated suicide

0. I have revealed my ideas openly
1. I have held back on revealing my thoughts of suicide
2. I have attempted to deceive, conceal, or lie about my thoughts about suicide.